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UNUSUAL MANIFESTATIONS OF POLIOMYELITIS.*

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I PROPOSE to bring before you a series of cases illustrating some of the unusual manifestations of poliomyelitis. The word "poliomyelitis" is used in its widest sense to indicate an acute specific fever which may affect any part of the nervous system. Recognising this fact it is not difficult to conceive that the clinical features which result from this disease may vary enormously. You are so well acquainted with the ordinary types of poliomyelitis as it affects the spinal cord, giving rise to a flaccid palsy of legs, arms and trunk, that I do not propose to deal with these, except in so far as they are seen in association with other symptoms, and aid the diagnosis, which otherwise might be obscure.

I. ATHETOSIS OF LEFT ARM AND LEFT SIDE OF FACE, FLACCID PARALYSIS OF LEFT LEG, AND SOME FLACCID PARALYSIS OF RIGHT LEG.

A. A—, aged 7 years, was the seventh of eight children. She was a healthy baby till the age of ten months, when she had an

* Lecture delivered at the National Hospital, Queen Square, November the 25th, 1913.

acute illness with convulsions. From this she recovered, but it left her with paralysis of the left side. She subsequently learnt to talk, was intelligent, and went to a school for physically deficient children. She never learnt to walk.

When first seen she was a pale child, with marked athetosis of the left arm and involuntary movements of the left side of the face.

Fig. 1.—Poliomyelitis of legs and athetosis of left hand and face. The left hand is blurred owing to its constant movement.

She was unable to stand, and if an attempt were made to place her on her legs she supported her weight on the right leg with the knee flexed, the left leg being too weak to support any weight. The left hand went into violent spontaneous movements of an athetoid character (Fig. 1) on attempting to walk or make other movements. The child had little or no power of movement over the left hand; there was, however, no rigidity, and the hand, though at times

strongly contracted, yet when moved passively was quite flaccid. The left leg showed the typical flaccid palsy of poliomyelitis with wasting of muscles, loss of deep reflexes, and loss of electrical reaction of all muscles below the knee, and to a lesser degree above the knee.

This case illustrates the association of an athetosis with a poliomyelitis. There is no reason to doubt that the paralysis of the legs is due to a spinal lesion and the athetosis of arm and face is due to a cerebral lesion. It may be questioned whether there is sufficient

Fig. 2.—Instantaneous photo of same child in celluloid splints.

evidence to prove that the condition is due to the virus of poliomyelitis, but so far as the legs are concerned they may be considered typical of the condition. The arm paralysis occurred at the same time, and there seems no reason for hypothesising another toxic condition for the production of the focal lesion in the brain. The contraction which was present in the leg has been corrected, the left leg supported by a celluloid splint to the hip, and the right leg by a celluloid splint to the knee. The girl walked fairly well with some support, but the athetosis of the left arm tended to upset her balance (Fig. 2).

II. Poliomyelitis with Rigid Extension of the Legs at the Hips.

H. G—, the fifth child of a family of five, was taken acutely ill with poliomyelitis in September, 1912, the limbs, trunk, face and eyes being affected at the onset. He was acutely ill for fourteen days, then gradually recovered the power in his right arm, but had severe pain and tenderness in trunk and lower limbs. When seen in March, 1913, both legs were rigid at the hips and everted, and attempt at movement caused acute pain. Below the knee the muscles were flaccid and the feet in a position of equinus. The muscles around the shoulder of the left arm were completely paralysed, and there was likewise considerable intercostal and abdominal paralysis. The child was quite rigid in the extended position,

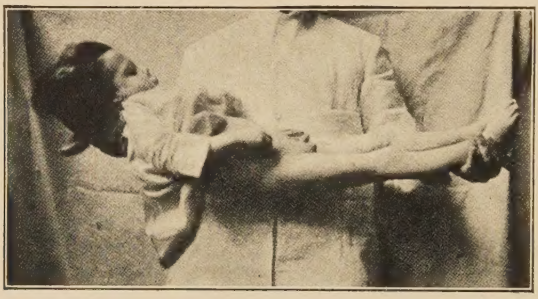


Fig. 3.—Poliomyelitis with rigid extension of legs at hips.

and if lifted off the bed by the hands placed under the head and heels, he maintained this extended position (Fig. 3). This rigid extension of the hips appeared to be due to the unbalanced action of the gluteal muscles, the psoas and the iliacus muscles being completely paralysed. Any attempt at flexion of the hip gave rise to pain, but if once flexed, the hip-joint could be moved in any direction quite easily. X-ray examination made it certain that there was no hip disease. All the deep reflexes were abolished in the lower limbs.

The clinical features of this case suggested the possibility of some disease in the hip-joints, but there seems to be no doubt that the condition was due to an extensive and rather unusual grouping of paralysed muscles due to poliomyelitis. The pain in this case has persisted for over fourteen months. It is much less acute than eight months ago, but movements are still resented and obviously painful.

III. Poliomyelitis with Flaccid Palsy of the Right Arm and Left Leg, with Rigidity of the Right Leg in the Flexed Position.

A. T—, the second of two children, was quite healthy at birth, but at the age of five weeks had "brain fever" with paralysis of the right arm and left leg. The right leg subsequently became paralysed and in a flexed position at the hip. When seen at the age of four months the child was fairly nourished; had complete flaccid palsy of the right arm and left leg. He lay on his back with the right leg cocked up in the air, the right foot being rotated inwards

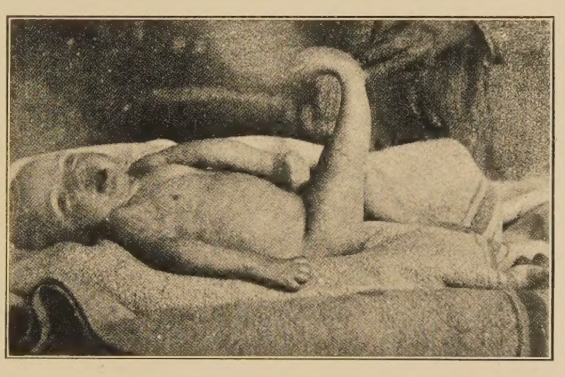


Fig. 4.—Poliomyelitis with rigid flexion of right hip.

in a position of varus. The right knee-jerk could be obtained, the left was absent.

On electrical examination no contraction could be obtained in the muscles of the right arm and the left leg, whilst in the right leg the muscles above the knee reacted to faradism, whilst those below failed to react. The condition of the right arm and the left leg was typical of poliomyelitis, and the cocked-up position in the right leg seemed to be due to the contraction of the psoas iliacus group of muscles, whilst the extensors of the thigh on the trunk, *i. e.* glutei, etc., were paralysed. The flexed condition of the thigh in this case is the reverse of the extended condition seen in Case II.

IV. Poliomyelitis of the Right Arm and Left Leg occurring during Intra-Uterine Life.

A. S—, the second of three children, was born in September, 1911. The mother was not attended by a doctor. The mother states

that she did not notice the weakness of the right arm until the child was two months old, but this child, unlike her other children, never made any attempt to move its arm. Wasting of the left leg was noticed some months later, but no attention was paid to this until the child was eighteen months old, when it was found that it could not walk. The child had no acute illness from the time of birth till two months old when the paralysis was first remarked. The birth was easy, and there is no evidence of injury during parturition. The child is intelligent and well nourished, has a complete flaccid palsy of the right arm, with considerable wasting, and a flaccid palsy of the left leg, also accompanied by wasting. The knee-jerk on the right side is active, on the left side absent. The child presents the typical features of a case of poliomyelitis. The question which arises is whether this condition occurred during intra-uterine life, at birth or subsequently. It seems impossible, considering the severity and wide extent of the lesion that the child could have had an acute attack of poliomyelitis, which should have escaped the mother's attention, between birth and the second month of life. The paralysis of the right arm and the left leg is not such as one would expect from a birth injury. The case is clinically very similar to that recorded by myself in 'Brain,' 1910 (xxxiii, p. 149), in which a post-mortem was eventually performed, showing changes in the spinal cord characteristic of old poliomyelitis.

V. Poliomyelitis and Ataxia; probably due to Involvement of the Cerebellum.

R. S—, aged 5½ years, and M. S—, aged 1½ years, are brother and sister, and they were both taken acutely ill within a week of one another on August the 16th, 1909. The elder child had left facial paralysis, and ataxia of the right arm and leg, whilst his sister had paralysis of the left side of the face, and flaccid palsy of the neck muscles. In the elder child the ataxia cleared up in about fourteen days after the onset of the acute illness. The paralysis of the face cleared up somewhat later.

In the case of his younger sister the weakness of the face persisted for many months, as did also the weakness of the muscles of the neck, some permanent paresis of the neck muscles remaining. In these two cases there is no doubt that the paralysis was due to acute poliomyelitis, and in the case of the elder child it seems probable that there was a focus of the disease in the cerebellum.

VI. Poliomyelitis and Toxic Neuritis.

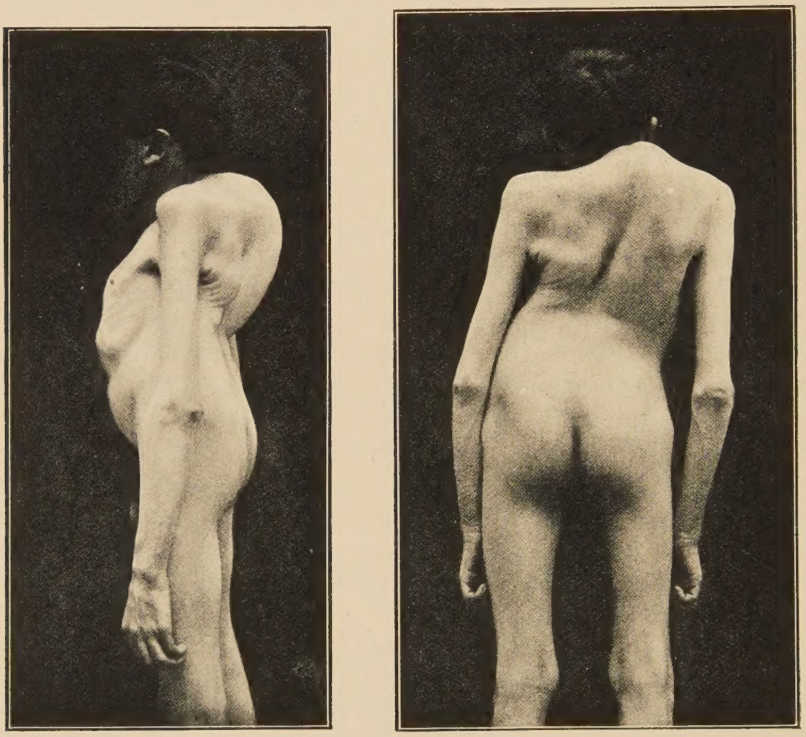
It is often questioned whether the virus of poliomyelitis can give rise to symptoms of a toxic polyneuritis. If the presence and persistence of pain are taken as evidence of the neuritis type of the disease, then it may be asserted that there is no justification for the title, since both these symptoms are well recognised accompaniments of affection of the spinal cord. If, however, there is evidence of weakness and wasting of the peripheral muscles which affects all the extremities more or less symmetrically, and at the same time there is definite alteration of sensation in the peripheral portion of the limbs, with tenderness of the muscles, then it will be justifiable to regard such a case as one of neuritis. If such a case occurred with a sudden onset, or in association with typical cases of poliomyelitis in other members of the same family or household, it would be justifiable to assume that the same poison was the causative factor. The recent work of Kling, Petterson and Wernstedt furnishes pathological proof that the virus of poliomyelitis may cause a degeneration of the lower motor neuron not dependent on an infiltration of the tissues. As evidence that poliomyelitis may produce toxic polyneuritis, the following cases may be quoted:

J. F—, aged 16 years, a milkboy. In July, 1910, he had some pain in both legs. On July the 30th he was taken acutely ill, vomited for three days, had pain in the abdomen and legs. On August the 3rd he could not stand, the legs gradually got weaker, and after a few weeks he was absolutely unable to move them, nor could he feel pin-pricks below the knees.

He was in bed for two and a half months, and after the seventh week his legs began to get better; his arms were never severely affected. He came under my care in November, 1910; he had then weakness of the arms, a feeble grasp, and generalised wasting. The trunk muscles were unaffected. The legs were wasted below the knee, he had double foot-drop, absent knee-jerks, and absent ankle-jerks. Electrical changes of the character of R.D. were present in the muscles of the arms and legs. No loss of sensation could be detected when the patient was seen in November, 1910. There was no evidence of poisoning by lead or arsenic; he recovered under treatment, and was discharged well in January, 1911. The case was obviously one of toxic neuritis. The only question which arises is whether his condition could be attributed to the virus of poliomyelitis.

The second case is that of E. H—, aged 5 years in 1898. He

was taken acutely ill at the end of August, 1898; he was feverish, lay prostrate, and was unable to turn in bed. He had acute pain in the back and limbs; he had no affection of the bladder or rectum. He was admitted to the Children's Hospital in October, 1898; he was then quite unable to walk or sit up in bed. He had considerable pain and tenderness of the trunk and limbs. He had no cranial nerve paralysis, but his voice was nasal in character and



Figs. 5 and 6.—Poliomyelitis, neuritic type; late effect.

there was some weakness of the palate. There was a *general* weakness of the legs, arms and trunk; the knee-jerks were absent, there was no loss of sensation, and the muscles on electrical examination showed the changes characteristic of R.D. He gradually recovered and went out of the Hospital able to walk, but still very weak. Two years later he was still very weak and had considerable difficulty in rising from the ground and in going upstairs.

He was seen again in 1913. He is now twenty years old; he is very small in stature, 4ft. 2in.; he has a marked scoliosis to the right.

Both arms and legs are weak and thin, but the loss of power is general and not local, and does not look like a residual poliomyelitis. He still has difficulty in rising from the ground and in going upstairs.

The case, when seen in 1898, was regarded as one of poliomyelitis or peripheral neuritis following influenza, which the boy was said to have had; but it is suggested that the virus of poliomyelitis may have been the cause of toxic neuritis, from which he has never made a complete recovery.

Conclusions.

The above cases form a series illustrating some of the more unusual manifestations of poliomyelitis, and serve to indicate some of the various symptoms which may result from an infection by that poison.

ADDISON'S DISEASE IN A BOY, WITH CALCIFICATION OF THE ADRENALS, WITH REMARKS.*

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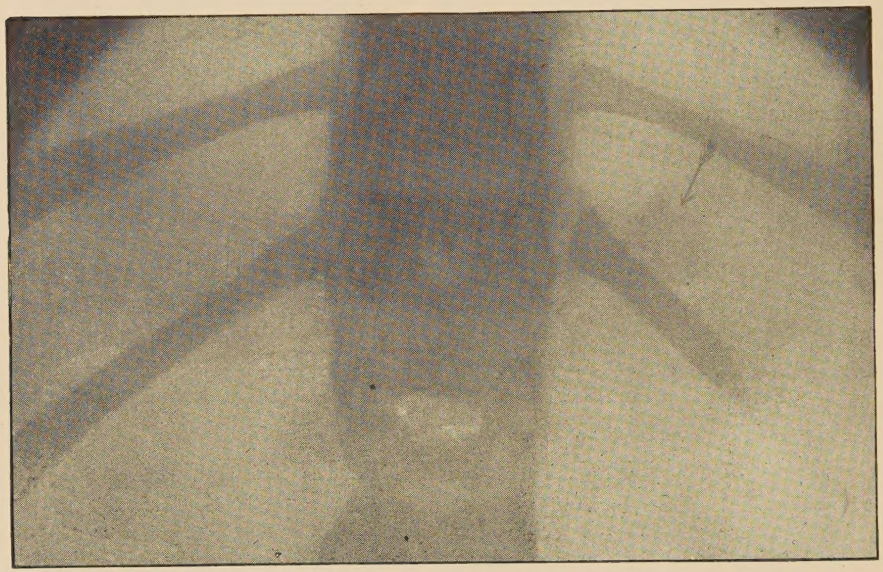
A boy, aged 12¾ years, was bright, intelligent, and fair-skinned until about the end of October, 1913, when his skin was noticed to be brown; this was at first attributed to dirt and an attempt was made to wash it off. When this attempt failed it was thought to be due to his habit of drinking vinegar. Synchronously with his change in colour he lost all his energy, was inclined to sleep all day, very easily got tired, had a cough at night and nocturnal enuresis. There has not been any gastro-intestinal disturbance or fainting attacks. Except for chickenpox some years ago the patient has not had any illnesses. An uncle and a brother are said to have had tuberculosis. The other children and the parents are fair.

On admission the boy had a somewhat lifeless, sleepy, sunken-eyed

* This case was shown on January the 9th, 1914, at the Clinical Section of the Royal Society of Medicine.

appearance and a general bronzing of the skin, especially around the nipples, the umbilicus and pudenda. There is a large pigmented scar in the left groin, a smaller one in the middle line between the pubes and the umbilicus, and the back and abdomen show a few scattered spots of pigmentation. On the right side of the abdomen there are scars of a former herpes zoster, but these are not pigmented. The skin is somewhat dry and scurfy, and it is perhaps due to desquamation that a scratch on the skin remains white for a long time. There is no buccal pigmentation. There are no signs of pulmonary or spinal tuberculosis, and von Pirquet's reaction was



Skiagram of the suprarenals in a boy with Addison's disease (Stanley Melville).

negative on two occasions. The systolic blood-pressure in the arms varies between 64 and 84 mm. Hg. There is no valvular disease of the heart. There is no dulness behind the manubrium sterni. The spleen and liver are not palpable.

Skiagraphy: Dr. Stanley Melville reports—"There are very definite calcareous particles in the region of the last rib and suprarenal body on the right side, less definite on the left side. The heart is small and vertical. There are discrete and dense opacities at the hila of the lungs, suggesting calcified nodules. No abnormal shadow was seen in the situation of the thymus. The movements of the diaphragm are feeble, but the expansion and translucency of the apices normal."

Blood-Counts (by Dr. S. Wyard).

December the 11th, 1913.

Reds	6,492,000
Hæmoglobin	80 per cent.
Colour-index	0·6
Differential count of leucocytes:	
Polymorphonuclears	33·5
Eosinophiles	7·0
Lymphocytes (large)	14·5
„ (small)	40·0
Hyaline	3·5
Transitionals	1·5
	100·0

The red cells are normal in size, shape, and staining.

December the 22nd, 1913.

Reds	5,300,000
Hæmoglobin	75 per cent.
Colour index	0·73
Leucocytes	23,000
Differential count:	
Polymorphonuclears	48·5
Eosinophiles	6·5
Lymphocytes (large)	11·5
„ (small)	28·5
Hyaline	2·0
Transitionals	3·0
	100·0

December the 30th, 1913.

Reds	5,200,000
Hæmoglobin	68 per cent.
Leucocytes	21,000
Differential count:	
Polymorphonuclears	60·0
Basophiles	0·5
Eosinophiles	4·0
Lymphocytes (large)	15·5
„ (small)	16·5
Hyaline	1·0
Transitionals	2·5
	100·0

January the 9th, 1914.

Reds	6,400,000
Hæmoglobin	73 per cent.
Leucocytes	30,000
Differential count:	
Polymorphonuclears	62·5
Eosinophiles	6
Lymphocytes (large)	15
„ (small)	11
Hyaline	2·0
Transitionals	3·5
	100·0

The treatment consisted in rest in bed and adrenalin chloride solution (1 in 1000), ten minims in water three or four times daily by the mouth. Later sandwiches containing raw adrenal glands were given. After this the pigmentation appeared to increase.

Remarks by Dr. H. D. Rolleston.

Addison's disease is rare in children. In 1897 Dezirot (4) collected 48 cases in children under sixteen years of age, and in 1910 Chemin (3) collected 56 cases under that age, but amongst these he includes the case of a girl, aged 3 years, which was published independently by Pitman (12), J. Ogle (11) and W. H. Dickinson (5), and was probably the earliest example of precocious sexual development associated with a cortical hypernephroma. Out of 55 of Chemin's cases 6 only occurred in the first decade, and J. Thomson (15) states that Addison's disease in children occurs almost exclusively over the age of twelve years. A most remarkable exception to this is the family with five cases of Addison's disease at the same time—in the mother, and four children aged 7, 4,* 3½,* 2½ years—recorded in 1900 from Edinburgh by Fleming and Miller (6). These patients when reported were all living, and the authors were obviously conscious of their exceptional nature, for they remarked that it may be questioned if these five individuals are all the subjects of true Addison's disease. It is noteworthy (*a*) that in "an account of

* These ages may remind the reader of the lines in James and Horatio Smith's 'Rejected Addresses' and their own footnote:

"My brother Jack was nine in May†
And I was eight on New Year's Day."

"† Jack and Nancy, as was afterwards remarked to the authors, are here made to come into the world at periods not sufficiently remote. The writers were then bachelors."

the epidemic outbreak of arsenical poisoning in the north of England and in the Midland counties in 1900," E. S. Reynolds (13) mentions that some of the pigmented cases were diagnosed by his assistants as Addison's disease, though in describing the extent of the epidemic he does not mention Edinburgh or any town so far north; and (*b*) that Fleming and Miller's cases were published before the existence of this epidemic was recognised. Although there is no justification for considering Fleming and Miller's cases to be examples of arsenical pigmentation, the exceptional nature of the cases and the coincidence of the epidemic in another part of the country are certainly suggestive.

In Chemin's 55 cases, 32 were males and 23 girls. He concludes that the features of the disease in children, which differ from those seen in adults, are darkening of the hair, diarrhœa (present in the four children reported by Fleming and Miller), incontinence of urine, and the more rapid course of the malady. Darkening of the hair, however, may occur in adults. It is now generally recognised that Addison's disease may be complicated by the *status lymphaticus*; out of 15 cases of Addison's disease Hedinger (8) found that seven showed *status thymico-lymphaticus*, and five pronounced lymphatic hyperplasia. In Langmead's (10) case of Addison's disease in a boy, aged 10 years, the spleen, 5 oz., came down almost to the umbilicus. A high lymphocyte count, such as was seen in the two first blood examinations of our case, is regarded as evidence of lymphatism and therefore as a bad prognostic. The eosinophile count in our case was high—7, 6·5, 4, and 6 per cent.; Gulland and Goodall (7) refer to a case with 10 per cent. For the increased number of red blood-corpuscles occasionally seen in Addison's disease various explanations have been offered. It has generally been assumed that it is due to concentration caused by vomiting and diarrhœa, neither of which occurred in our case. A specific action of the tuberculous toxin has been invoked, and in this connection it may be mentioned that erythræmia has been recorded in about 6 out of 50 collected cases of primary massive tuberculosis of the spleen (Winternitz (18)). G. R. Ward (16) regards erythræmia in Addison's disease as a compensatory process, and argues that adrenal insufficiency gives rise to circulatory stasis, which in its turn causes concentration of the blood and actual increased formation of red blood-cells. The small size of the heart, shown by the *x* rays in our case, was insisted on by C. R. Box (2), and in Langmead's case of Addison's disease in a boy, aged 10 years, the heart weighed 3 oz. and resembled that of a child of two or three years old. The small size of the heart is no

doubt closely correlated with the absence of adrenin and with the low arterial blood-pressure.

In an account of the pseudo-meningitic form of acute adrenal insufficiency, Sergent (14) described a cutaneous sign which he considered characteristic of low blood-pressure and adrenal insufficiency. On irritating the skin by a scratch a persistent "white line," due to reflex capillary spasm, results, which is the exact reverse of the well-known *tache cérébrale* in tuberculous meningitis. According to Le Clerc (9) this sign had long before been noticed in diseases other than Addison's disease by Gubler; and L. Bernard (1) brought forward evidence to show that it is valueless as an indication of low blood-pressure and adrenal insufficiency. Our patient certainly presented it, but as already mentioned, it may well have been due to partial detachment of some of the dry epidermis.

There is a point of speculative interest in connection with the cutaneous scars: one in the left groin was much pigmented, a common event in Addison's disease; but on the right side of the abdomen and thorax there were scars, exactly like those of a former herpes zoster, which were pale and contrasted with the adjacent pigmented skin. In answer to the question why the latter were not pigmented, it may be suggested that the absence of pigment is connected with impaired innervation of the herpetic scars. If this is so, it is an argument in favour of the view that the bronzing of the skin in Addison's disease is due to nervous irritation.

The demonstration of calcification in the adrenals and in the bronchial lymphatic glands by skiagraphy is interesting, especially in so young a patient. It points to obsolete tuberculosis and thus agrees with the negative von Pirquet's reaction. Presumably cicatricial contraction in the calcifying adrenals, rather than active tuberculosis, is responsible for the recent appearance of symptoms of Addison's disease. As an exceptional example of calcification, though not subsequent to tuberculosis, attention may be drawn to Hale White and Bryant's (17) case of wide-spread arterial calcification and endarteritis associated with hydronephrosis in an infant of six months. In connection with Addison's disease and calcification reference may be made to the case of a man, aged 25 years, with cutaneous pigmentation, asthenia, which suggested Addison's disease during life, and wide-spread arterial calcification. At the necropsy the suprarenals were healthy, and the main visceral lesions were fibrosis of the left kidney and complete destruction of the right kidney by old disease. The myocardium showed calcification (B. Bramwell, 'Clinical Studies,' 1909, vii, p. 242).

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TONGUE-CHEWING.

By Bernard Myers, M.D., M.R.C.P.,

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The following cases of tongue-chewing will, I think, be of interest, as, in the first place, they exhibit a peculiar neurosis which may occur in children or adults, and, in the second place, these are, as far as one can gather, the first cases of the kind to be reported.

The condition consists of the chewing of one side of the tongue by the teeth after practically the identical manner in which some of the American children chew their chewing-gum. In the process the premolars and molars of the particular side of the jaw move inwards over the tongue for about a quarter of an inch, and then glide over and off it until the upper and lower molars are in apposition again; then the movement is repeated. The rate is about ninety per minute. The chewing movement may be kept up for a few seconds, minutes, or half an hour. It may be performed once or twice daily, or intermittently at various intervals. The repetition of the habit makes part of that side of the tongue distinctly red and occasionally inflamed and indented. I have never seen a child chew both sides of the tongue, and the side chewed is apparently never varied. The earliest period at which tongue-chewing begins

is probably during the second year of life, when the child has obtained some back teeth. It may possibly remain with the individual throughout life. A bad tooth or a gumboil on the chewing side will accentuate the process very greatly, and should the sufferer have stopped it for a few weeks any irritation upon the affected side of the mouth will at once start the chewing again. A very important point is that no food or other material is to be found in the mouth during the process, so that it has nothing to do with merycism. Again, an onlooker can detect immediately which side of the tongue is being chewed. It does not seem to have anything to do with sex in that I have seen it in two cases of males and two of females.

The first case is that of a man, aged 44 years, who has chewed his tongue from early childhood, and, notwithstanding great efforts on his part to stop it, I have on many occasions lately seen his jaws moving when he was sitting quietly and quite oblivious of the fact himself. The movement always becomes worse when he is excited or worried. He is a professional man, well built and healthy in every way. During his athletic career he gained many cups and medals for prowess at running, swimming and rowing. He is apt to get excited over comparatively trivial things, and once had a severe attack of neurasthenia after the worries of an election. There is no history of epilepsy or fits, or any mental peculiarity in the family, which is a robust and healthy one. Neither his mother nor father suffered from this complaint, nor have his two elder brothers and sister, but the remaining member of the family has also chewed his tongue since childhood. He is likewise a professional man, of robust constitution, and quite healthy. At the present time he is a tongue-chewer only when excited, or if worried by some irritation on the particular side of the mouth. As a child he suffered for years on and off from various habit-spasms and from rheumatism.

The third case is that of a strapping girl, aged 14 years, the picture of health and not particularly highly strung. She is a daughter of the elder brother above-mentioned. She has chewed her tongue from early childhood and does it still. Her brother, aged 10 years, is free from the habit.

The fourth case is that of a girl, aged 7 years, and daughter of the younger brother above-mentioned. She began the habit during her second year. She is a strong and healthy child, the only children's ailment from which she has suffered being laryngitis stridulosa, her first attack of which began at the age of nine months, and she still occasionally gets mild attacks of it. Two elder sisters are highly strung, and have suffered from laryngismus stridulus as

infants and from habit-spasms since then, but neither has chewed her tongue.

After having watched these cases for many years I cannot regard them otherwise than as a peculiar form of habit-spasm, although, I admit, the persistence of tongue-chewing to middle age is not easy to explain. Certainly if they be not cases of habit-spasm, I am not personally aware of the category into which they should be placed. Any irritation, such as a painful tooth, brings on the habit at once, and it persists for some time after the removal of the tooth. There are many cases of habit-spasm in this family. The special peculiarities are the early age at which it is first noted, its persistence into adult life, and the never altering of the side of the tongue which happens to be chewed.

The effect of bromide upon the condition is to lessen and gradually stop the habit for a time, but it invariably comes back again. It in no way interferes with the health or vocation of the individual.

Summary.

Tongue-chewing is first noticed about the second year of life and persists until middle age, or, perhaps, throughout life.

It tends to be less noticeable with advancing years.

Either sex may suffer from it.

It occurs, apparently, in healthy families, in which certain members suffer from habit-spasms.

Several members of one family may suffer from it.

The habit is inherited, as far as one can see, and not copied.

The same side of the tongue is always chewed in the same individual.

The mental condition is quite normal and the general health is not interfered with in any way.

Bromides stop the tongue-chewing, but in time, after leaving off the drug, the habit recommences.

NERVOUS DISEASES OF ELEMENTARY SCHOOL-CHILDREN —BOYS AND GIRLS.

By John Priestley, M.R.C.S.,

Senior School Medical Inspector, Staffordshire Education Committee.

A study of the incidence of disease in the two sexes may ultimately prove to be illuminating both as to the problem of sex and as to the ætiology of disease. The medical inspection of scholars in

our elementary schools, in which all children are passed through a uniform medical examination, has brought to light several interesting points of constant difference between boys and girls. On this occasion I wish to confine attention to points of difference in the incidence of nervous diseases.

The following table is based on the records of 62,236 children medically inspected during 1909–10–11. The children were of the age-groups 5–6, 8–9 and 12–14, one fifth, approximately, being of age 12–14, and two fifths each of ages 5–6 and 8–9. There were 31,352 boys and 30,884 girls. There was no overlapping in the groups, *i. e.* no child figures twice over in virtue of having passed from one age-period into another.

As we do not investigate the mental condition of children of 5–6, the figures in the table referring to dulness and mental deficiency are derived from the examination of the children of 8–9 and 12–14, who together amounted to—boys, 18,515; girls, 18,447; total, 36,962.

Nervous Disorders of Boys and Girls.

Disorder.	Per 10,000 boys examined.	Per 10,000 girls examined.	Total number of cases of the disorder discovered.
MENTAL:			
Dull or backward	901	623	2818 out of 36,962 children.
Mental defect	49	31	148 „ „ „
Stammering	67	20	271 „ 62,236 „
Defective articulation	183	116	931 „ „ „
NERVOUS SYSTEM:			
Spasmodic affections	17	11	87 „ „ „
Paralysis	29	18	145 „ „ „
Epilepsy	13	6	61 „ „ „
Chorea	2	5	24 „ „ „
Headache	181	293	1471 „ „ „
Functional disorders	124	138	817 „ „ „
Asthma	4	1	17 „ „ „

Mental dulness is judged of by the inspector in consultation with the head teachers. Defective articulation of speech includes all kinds of indistinctness, slurring, lisping and idioglossia. Spastic affections include all conditions of a spasmodic nature, habit spasm, spasmodic wry neck, etc. The cases of paralysis are, chiefly, of course, the effects of infantile paralysis. Headache would not be put down against young children except on the authority of their parents or the head teacher. Functional disorders is a nondescript

class including "nervousness," tremors without apparent organic cause, incontinence of urine, etc.

The table is certainly interesting. In only two complaints, viz. chorea and headache, are more cases recorded against girls than against boys; and in chorea the predominance may depend on the predominance of rheumatism among girls. Emmett Holt (1) states that girls as a class show twice as many cases of rheumatism as compared with boys, and this has been our experience in the (relatively few) cases of rheumatism that have come to our notice in Staffordshire.

In functional disorders boys and girls are approximately equal; but in every other nerve complaint—including all the serious ones, mental dulness and defect, stammering, paralysis, epilepsy—there is a marked preponderance among boys.

An explanation of this unequal incidence of nervous disorders in boys and girls, as regards mental dulness at least, has been sought (2) in the fact that the brain in girls ceases to grow in weight at about the age of seven, while in the case of boys it continues to grow until puberty (3). A still growing brain might be supposed to be more liable to derangement than one which has ceased growing. It is not improbable that this physiological difference of growth plays a part in the sex differences as regards nervous affections; but is it the fundamental cause of difference? To put this to the proof we ought to contrast boys and girls at age 5–6 while the brain is still growing in both. I am not in a position to do this fully, since, as already mentioned, children are not classified for dulness or mental deficiency until they are about eight years old. But it is possible to contrast them in regard to all the other important nervous complaints. Headaches for obvious reasons should be left out of the calculation; it is difficult to judge of headaches at age 5–6; but taking all other cases of nervous disorder together—stammering and defective articulation of speech, spasmodic and paralytic affections of childhood, epilepsy, chorea, functional disorders, and asthma—we find that 12,837 boys of 5–6 showed 601 cases of disorder, or 468 per 10,000, while 12,437 girls of 5–6 showed only 431 cases of the same disorders, or 346 per 10,000. Clearly the relative immunity of girls is not entirely, if at all, dependent on the earlier cessation of growth of the brain.

References.

(1) Holt, Emmett.—'Diseases of Infancy and Childhood,' p. 721, 4th ed. London: Sidney Appleton, 1907.

(2) Tredgold, A. F.—"Dull and Backward Children," British Journal of Children's Diseases, 1911, viii, p. 451.

(3) Vierordt, H.—'Anatom. physiol. u. physikal. Daten u. Tabellen,' 3rd ed., pp. 36–37. Jena: Fischer, 1906.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, December the 12th, 1913.

The President, Dr. Leonard Guthrie, *in the Chair.*

Discussion on Enlargement of the Spleen in Children.—Dr. Hutchison suggested the following grouping of enlargements of the spleen met with in children in this country:

(1) Tumours. Neoplasms, endothelioma, cysts, etc. (2) Infective: Typhoid, ulcerative endocarditis, malaria, tuberculosis, lymphadenoma, chronic arthritis. (3) Chronic venous congestion. (4) Metabolic disorders: Rickets, lardaceous disease. (5) Blood diseases: Leukæmias, splenic anæmia of infancy, chloroma, congenital anæmia with splenomegaly and jaundice. (6) Splenic anæmia of the adult type. (7) Syphilitic. (8) Splenomegaly with acholuric jaundice. (9) Splenomegaly with cirrhosis of liver: (*a*) portal cirrhosis, alcoholic and other forms; (*b*) biliary cirrhosis; (*c*) syphilitic cirrhosis; (*d*) Banti's disease; (*e*) congenital obliteration of bile-ducts.

Dr. Hutchison pointed out that the classification was mainly a clinical one. He then made a few remarks explanatory of each group. With regard to group 5, he pointed out that chronic myeloid leukæmia, which causes so great a degree of enlargement of the spleen in adults, is a rare disease in childhood, but acute myeloid and lymphatic leukæmia are not very uncommon, and are attended by a considerable degree of splenomegaly. Closely allied to these is the enlargement met with in chloroma.

By far the commonest blood disorder in early childhood, characterised by marked enlargement of the spleen, is the so-called pseudo-leukæmia of von Jaksch (splenic anæmia of infancy). Mention was also made of those rare cases of congenital anæmia with jaundice and splenomegaly described by Buchan and Comrie. The pathological problems which arise in connection with enlargement of the spleen in these cases in children do not differ from the kindred problems which arise in the case of adults. Group 6: Cases are sometimes met with in later childhood which are indistinguishable from the splenic anæmia of adults. They are characterised by a great enlargement of the spleen with a slight degree of anæmia persisting for a variable number of years, after which cirrhosis of the liver supervenes with ascites and gastro-intestinal hæmorrhages. Group 9: Enlargement of the spleen with cirrhosis is not infrequent. Several varieties may be distinguished. (*a*) The cirrhosis may be of the multilobular type; some cases are alcoholic, but probably other poisons produce a similar result. (*b*) The cirrhosis may be of

the monolobular variety (Hanot type), in some the enlargement of the spleen precedes, and is relatively more pronounced than that of the liver. (*c*) The cirrhosis may be syphilitic. (*d*) Enlargement of the spleen may exist for years and be followed by a multilobular cirrhosis (Banti's disease). (*e*) Cirrhosis may depend upon congenital malformation of the bile-ducts.

As regards pathology (*a*) What is the cause of the enlargement of the spleen? (*b*) What is its relation to the pathology of the disease as a whole? and especially is the spleen playing an active or passive part? It is reasonably certain that the cause of the enlargement is not the same in all the groups, but it is particularly necessary to inquire what part is played by syphilis in its production. Dr. Hutchison suggested that in groups (6) and (8) syphilis plays no part, nor in cases of cirrhosis, except where the cirrhosis is of the well-known syphilitic variety. As to the ultimate cause of the enlargement in acholuric jaundice, in splenic anæmia of the adult type, in portal and biliary cirrhosis and congenital obliteration of the bile-ducts he had no suggestions to offer. The results of splenectomy are now enabling one to say whether the part played by the spleen is active or passive. In groups (6) and (8) the spleen is in some way the cause of the other features in the clinical picture.

As regards therapeutics he suggested that splenectomy is indicated in groups (1), (6), and (8), though the comparatively benign course of the latter renders it questionable whether operation is justified unless in exceptional circumstances. It will generally be admitted that it is entirely inadmissible in group (5).

Sir John Bland-Sutton first discussed the functions of the spleen. He pointed out the rapid increase in size after birth, and the facility with which it becomes engorged in fevers and other infantile disorders, especially rickets, suggests that it has important functions at the commencement of life. The enlarged spleen associated with numerical reduction of the red corpuscles in the disease of children known as splenic anæmia is due to functional overactivity of the spleen. The enlargement is due to the accumulation of the products of hæmolysis. When its destructive activity is excessive, harmful products of this over-action accumulate in the blood, producing, in addition to anæmia, acholuric jaundice. Splenic anæmia often ends fatally, and there can be little doubt that some wandering spleens in young women are chronic examples of this disease, the mobility being caused by its abnormal size. He had removed the spleen of a young woman, aged 22 years, for acholuric jaundice with a most satisfactory result. In children the spleen can certainly be removed without interfering with their growth and development. Removal of the spleen in children suffering from splenic anæmia is a life-saving measure. In 1895 he excised a spleen from a girl, aged 5 years, for splenic anæmia. Sutherland and Burghard's patients were aged 6 and 12 years respectively. Hutchison had removed the spleen from a boy, aged 7 years. Makins had removed the spleen from a girl, aged 9 years. He (himself) had removed an enormous spleen from a girl, aged 17 years, suffering from splenic anæmia and jaundice. In all these cases the result of the operation was a complete success.

He recommended opening the abdomen in the left linea semilunaris. The suspensory ligament (phreno-colic) is then snipped with scissors, and the spleen then slips out quite easily. The vessels are secured with hæmostatic forceps and divided with the gastro-splenic omentum close to the spleen. After the organ has been excised the vessels are tied with silk. The greatest care must be taken in this step.

He then emphasised the importance of a study of the microscopic features of the blood when there is enlargement of the spleen. To-day any abdominal swelling resembling an enlarged spleen suggests a blood-count, and he is an unwise surgeon who removes a spleen before making a microscopic examination of the blood.

The removal of a leukæmic spleen always ends in disaster. In dealing with splenomegaly the physician is the reliable guide and the surgeon his willing instrument.

Dr. G. A. Sutherland pointed out that at one time "primary" diseases of the spleen were not recognised. At the present time, instead of there being no recognised primary diseases of the spleen it would appear that the number of them is increasing, as judged by the results of splenectomy for the relief or cure of various clinical phenomena. Here, as in other cases, surgical procedures have gone ahead of pathological knowledge, for it is not yet known what the exact nature of the splenic disease has been. Dr. Sutherland then gave an account of two cases of splenic anæmia which had been under his care in each of which Mr. Burghard had performed splenectomy (*vide* British Journal of Children's Diseases, 1911, viii, *p.* 73). He pointed out that in splenic anæmia the splenic vessels are enlarged, and that this has usually been ascribed to the call of the spleen for more blood. On the other hand, it is possible that there may be primarily a pathological condition of the splenic vessels, a vaso-motor disorder, leading to hyperæmia of the spleen, and that its natural functions are thus disturbed.

Dr. Poynton limited his remarks to cases of family acholuric jaundice. He had four families under observation, including twelve individuals, some of which had been under observation for some years. He believed that he was among the first to point out in this country that the condition of yellowness might alternate with that of anæmia, and that an enlarged spleen with an anæmia so little tinged with a yellow colour as to be easily overlooked might occur in some members of these families. He recognised very clearly those cases which were always more or less yellow, somewhat anæmic, with enlarged spleens, and slightly enlarged livers, and were liable to attacks in which they become much more yellow. On the other hand, he had seen a case in the same family as one of these, admitted to hospital intensely jaundiced, and a year later admitted again as a severe "chlorosis." He had not yet had a case operated upon, although in one case he had recently advised it. The diagnosis was full of difficulties and they were interesting ones. Gall-stone colic, gastric ulcer, intussusception and renal colic had been among those made in his cases. Syphilis of the liver, splenic anæmia, chlorosis, and Addison's disease were other diagnoses that had been made in his comparatively small collection.

Dr. Thursfield said that the type of disease known as splenic anæmia was really a congeries of cases due to different causes. From that group there had been separated off the group of acholuric jaundice. But even that was not a homogeneous group. Dr. Poynton had mentioned cases of the family type; there were also acquired cases which behaved in the same way as those of the family group. The causation remained obscure though it was certainly not syphilis. With regard to the pathology of the various cirrhoses he did not think that any advance had been made. At present there was no method by which one could examine the blood of the living patient and demonstrate the hæmolysins causing the anæmia or the pigmentation. Still he did not despair of some such method being found. With regard to the fragility of corpuscles there was no abnormal fragility

in any disease, even in purpura hæmorrhagica and scurvy, except in acholuric jaundice, where in twelve cases with one exception the fragility was abnormal. He feared that he might be regarded as somewhat despairing with regard to diagnosis. He felt that in these obscure cases, when the patient was not making satisfactory progress, that a surgeon should be asked to remove the spleen, especially because he believed that in the vast majority of cases of splenectomy the whole of the splenic tissue was not removed.

Mr. Philip Turner mentioned a case of a boy, aged 5 years, whose spleen he had removed. He had been admitted six times to various hospitals and once had been treated as an in-patient for nine months. He was very wasted; the skin had a yellow waxy appearance; the spleen was much enlarged, filling the left iliac fossa. Anæmia was intense, red corpuscles being one and a half million and hæmoglobin 25 per cent. Dr. French, under whose care the child was, had diagnosed von Jaksch's anæmia. In spite of all treatment the child got steadily worse, and removal of the spleen was decided upon. The operation, which was carried out on the lines described by Sir John Bland-Sutton, was attended by very little shock, and but little blood was lost.

The result was remarkable. Within three months he was practically well and attending school, the anæmia had disappeared, he had strong limbs, a chubby face, and an excellent colour.

Dr. T. S. Lukis discussed the question of the fragility of the corpuscles. Mention had been made of the vital staining granules which he had been studying for some time. His researches were not complete, and his conclusions had not been formed. Still, it seemed clear that, whatever these granules were, they bore a definite relation to blood destruction, and particularly to blood regeneration. One found them in cases which had surgical hæmorrhages; they appeared in the blood for a time during regeneration, and disappeared when the blood returned to normal.

In seven cases of acholuric jaundice which he had examined he found a very high percentage of these vital staining cells. One case showed 60 per cent. of total red cells abnormal in this way. A few days after removal of the spleen the vital staining granules returned to normal. He had also examined these cells in cases of von Jaksch's anæmia, pernicious anæmia, and leukæmia. Generally speaking in these cases where there was a high percentage of vital staining cells the prognosis was better.

Dr. Parkes Weber suggested that the word "abnormality" might be substituted for enlargement of the spleen. He thought that with the help of further research the following classification might be possible:

(1) Enlargements of the spleen in which the enlargement and structural or functional change was serving some useful purpose.

(2) Enlargements due to the presence of tumours.

(3) Enlargements or alterations due to the local presence of microbes.

(4) Enlargements or alterations connected with disorder or excess in the functional activity of the splenic tissue.

Philadelphia Pediatric Society.

December the 9th, 1913, Theodore Le Boutillier, M.D., President.

Primary Splenomegaly.—Dr. S. McC. Hamill presented this boy, aged 4½ years. His father was said to have had "spleen trouble." The child's face was so swollen ten days after birth as to close his eyes. There were no other symptoms, and the physician states that the condition was not infectious. He had pneumonia at six months. A few weeks after birth anæmia was noted, which has persisted. At 14 months he had an exacerbation, hæmoglobin dropping to 24 per cent., and he was desperately ill. He has had a number of acute attacks since, accompanied by an elevation of temperature, sometimes to 104° F. He vomits with attacks, and has continued vomiting for days, and may be nauseated between attacks. The vomiting may have been cyclic, the anæmia being the result of the vomiting attacks. His last vomiting attack was in October, 1912. Last April, after three hours' sleep, he awakened with loss of power in his left arm and complete paralysis of the left leg. He was not unconscious. He had fever, was restless and wakeful. Shortly afterward, following a negative Wassermann, he was given salvarsan intravenously, with alarming symptoms following. Subsequently he had four doses of salvarsan or neo-salvarsan by rectum. There was decided reaction after the two last, given July the 19th and August the 21st. Marked improvement of the paralysis, blood-picture and general condition followed. Physical examination shows a very large, firm, smooth spleen, extending down to the iliac crest and to the median line to the right; very slight enlargement of the liver, and almost complete absence of enlargement of the superficial lymphatic glands. Kidney secretion is much diminished. Bile and urobilin were not present in the urine. He is cheerful, and mentally active, but suffers physical fatigue from slight effort. His nights are restless. Blood-counts showed 1,360,000 erythrocytes, 49 per cent. hæmoglobin, and 7100 leucocytes. Differential count gave lymphocytes, 66 per cent.; large lymphocytes, 4 per cent.; transitionals, 1 per cent.; polymorphonuclears, 26 per cent.; eosinophiles, 1 per cent.; basophiles, 0; myelocytes, 0; two normoblasts in 100 leucocytes, numerous macrocytes and microcytes, few poikilocytes. The principal features of this extreme anæmia were the low leucocyte count and the excessive mononuclears. There is no jaundice now, but the mother states that the child's skin has been very yellow at times. The persistent low leucocyte count, absence of jaundice and marked enlargement of the spleen lead to the diagnosis of primary splenomegaly. The early development of the anæmia suggests that it may be congenital, ante-dating the splenic enlargement. If the anæmia was primary, this fact, together with the increase in the number of mononuclear cells, makes one consider the possibility of pseudo-leukæmia infantum, but the leukopenia in the presence of the extremely grave anæmia makes this diagnosis untenable. Dr. Hamill was inclined to consider this case one of primary splenomegaly.

Amyloid Disease of the Liver.—Dr. Hamill also showed a Russian boy, aged 9 years. He was supposed to have had scarlet fever at the age of four. He was brought for a deformity of his arm. This was found to be

due to a much contracted left chest compressing the lung, which was pushed into the upper part of the chest, giving all the signs of consolidation. The feature of interest was the enormous enlargement of the liver, which occupied more than three fourths of the abdominal cavity. Its left lobe extended over to the left lateral surface of the chest, and its notch was felt to the left of and below the umbilicus, while the right lobe extended downward almost to Poupart's ligament. The liver was firm, surface smooth, and edge sharp. Spleen was palpable, firm to touch, pushed below the margin of the ribs after full inspiration. There was no tenderness on pressure, and no other masses were found. There was moderate enlargement of all superficial lymphatic glands, with marked clubbing of fingers and toes. The child was undersized, very anæmic and emaciated. He has had a persistently intermittent temperature. When first observed, blood examinations showed moderate increase in leucocytes, with excess of polymorphonuclears. Recently he has more marked leucocytosis of the polymorphonuclear type and severe secondary anæmia. He never had any pain, jaundice, or ascites. He has had no diarrhœa. Albumin, in varying amounts, has been frequently found, but no casts. Cutaneous tuberculin test was mildly positive; Wassermann negative. The diagnosis of amyloid disease was based on the blood-picture, indicating an infection, the confirmation of this infection by the chest deformity, which probably indicated pre-existing pyæmia, the absence of jaundice and ascites, and the irregular type of fever.

Dr. E. B. Krumbhaar discussed the first case, which he considered to be a true case of primary splenomegaly, probably of the Minkowski-Chauffard type. The chronic enlargement of the spleen, probably from birth, the anæmia, presenting marked changes from month to month, and the suggestive history of a similar condition in the father and grandfather, all point strongly to this hereditary condition. Following Chauffard's aphorism that these cases are more icteric than sick, his evident sick state and the absence of jaundice are atypical, but there is some evidence that during previous attacks jaundice has several times been present. Examination of urine at this time might also show excess of urobilin. An examination of the blood to determine the resistance of the red blood-cells to hypotonic salt solutions of different strengths would be of value in differentiating this type from other forms of splenic anæmia. If the fragility of the red cells was found increased, it would be strong evidence in favour of the Minkowski type. If this diagnosis is correct, then the question of splenectomy at once arises. Just as in the early stages of Banti's disease and in the acquired form of this disease (Hayem-Widal), and, in fact, wherever undue hæmolysis is proved, a large percentage of cures has resulted from splenectomy.

Caries of Lumbar Spine; Operation.—Dr. J. Torrance Rugh showed a boy, aged 14 years, who first developed caries of the lumbar spine at three years. He was treated almost from the beginning. Very early large psoas abscesses developed upon each side, disappearing under thorough fixation of the entire body in plaster. But they reappeared when a brace was applied and finally had to be opened. These openings healed, but later two sinuses formed and these are still discharging. He went without brace or support for four or five years, but one year ago began to show signs of activity of the carious process. Operation was performed January the 28th, 1913. It was purposed to do Hibbs' operation to secure ankylosis of the posterior segment of the spine, but pus was found about in four or five spines when uncovered in an attempt to strip the periosteum from the spinous processes.

Not wishing to risk the entire process each one was split in half, and one half was cut off at the base and turned down in contact with the process below it. The pus was wiped away and the periosteum sewed over to maintain position. The wound was closed without drainage and a plaster jacket applied. Recovery was uneventful and improvement has been steady; he is now anxious to go without his cast. The old sinuses are still discharging very slightly, but his health is improved and all signs point to the success of the operation. This method of operation was first used by Albee before he began bone-transplantation.

Separation of the Tibial Tubercles.—Dr. Rugh showed another boy, aged 15 years, first observed November the 3rd, 1913. He complained of tenderness on the anterior surface of each knee. This had been present for five or six months and gave him much annoyance. He was sturdy and active, growing rapidly. Examination showed marked enlargement just below the patellæ and tenderness over these areas. He complained that the knees hurt after walking or exercise. The diagnosis of separation of the tibial tubercles was confirmed by the X rays. He was ordered rest and ichthyol ointment was applied. In two weeks the tenderness had all subsided. The case will be watched, and if there is no attempt at union later, an operation will be performed to fix the tuberosities.

Dr. T. A. O'Hara said that the Albee operation had proved successful in over thirty cases in the Orthopædic Department of the University of Pennsylvania Hospital. So far as he knows, the Hibbs operation has never been attempted there.

Dr. Rugh added that this was the first type of operation done by Albee for Pott's disease, and was indicated in this instance in place of bone-grafting because of the suppuration along the spines.

Osteogenesis Imperfecta.—Dr. H. Lowenburg showed an infant, aged 4 days. Labour was unusually easy, as the baby was undersized. Placenta was calcareous. It was noticed that crepitation occurred in nearly all the long bones. X rays showed fractures of all the long bones. That these fractures were intra-uterine was emphasised by the fact that the one upon the right humerus showed considerable callus which could not have formed after birth during four days. This might be an interesting medico-legal point. The case will be reported in detail later.

Dr. Rose Rubin said that delivery was quite easy. She first noticed crepitation of the arm after the posterior shoulder was delivered, even before the entire body was born. Aside from the calcareous degeneration of the placenta, there was nothing unusual about delivery. The mother gave a history of having had one child with club-foot. She married her first cousin, but has four other healthy, normal children. When she was about six months pregnant she fell down one step, but never noticed any ill-effects from the fall. There is no specific history.

Syphilis.—Dr. Theodore le Boutillier showed three children. The first, a baby aged 2 months, showed large liver and spleen, and hæmorrhages from the mucous membranes. It had also had snuffles, skin eruptions, and great weakness. The baby has done well upon inunctions and calomel internally. Dr. le Boutillier considers it the worst case of hereditary syphilis he has seen, and conditions have cleared up remarkably well. The second was a boy, aged 7 years, under observation since one month old. At four

years he had an abscess over the right tibia, which was opened. Two years later marked ptosis of the right eyelid developed with strabismus. Wassermann was markedly positive and he was given salvarsan; ptosis improved in a month. Two subsequent injections of neo-salvarsan were given, and Wassermann is now negative. The father's chancre occurred eleven years before the child's eye became affected. He was under treatment three years and then married; four years later this boy, the only child, was born. Wassermann of father markedly positive; of mother negative. The third case was a boy, aged 5 years, first seen when six weeks old. He had snuffles and a skin eruption. His liver was enlarged. Treatment was kept up two years at that time. Now he is backward mentally, has a moderately spastic gait, markedly increased knee-jerks and ankle clonus. The case is clearly syphilitic myelitis.

Lateral Deviation of the Spine.—Dr. T. A. O'Hara showed a boy aged 15 years, with possible spondylitis.

Ringworm of the Scalp cured by X Rays.—Dr. Frank Crozer Knowles exhibited two children. The first showed the depilation resulting from exposure to the X rays in the cure of ringworm of the scalp. The second presented typical scutulæ of favus.

Endoscopic Examination of Infantile Cervix and Vagina.—Dr. John F. Sinclair demonstrated a method of examining the infant's cervix and vagina endoscopically. The method is of service as a prophylactic measure. During the current year he has examined eighty-three babies by this method. Both vulvar and vaginal smears were taken routinely and examined bacteriologically. Careful notes of vaginal and cervical conditions were kept. Nineteen per cent. were found to be infected with gonococcus upon admission to the Babies Hospital, or to present highly suspicious evidence of such infection. The early recognition of the infectious agent is of immense importance in instituting proper prophylactic measures. Over 21 per cent. of the cases which were positive or highly suspicious upon admission would have escaped detection without the use of the endoscope.

Société de Pédiatrie, Paris.

November the 11th, 1913. (*Bulletin No.* 9.)

Marked Hypertrophy due to Hypo-alimentation; Rapid Increase of Weight and Growth by means of Hypersaccharated Milk.—M. G. Variot reported a case, typical of many others of a similar character, under his care. He drew attention to the temperature chart, which was frequently 100·2° F., and on certain days reached 102·4° and 103·0° without anything in the general condition or in the stools being found to account for it.

Laparotomy in a Case of Intractable Vomiting.—M. Dufour reported the case of a premature infant, aged 3 months, on whom laparotomy was performed. Exploration of the abdomen afforded no explanation of the vomiting. Recovery followed spontaneously later.

M. Variot thought that laparotomy would have been avoided if hypersaccharated or condensed sweetened milk had been tried.

Treatment of Pott's Disease by Lannelongue's Method.—MM. Broca and A. Trèves reported cases in which, in order to obtain immobility in the dorsal position, they had replaced plaster apparatus, which tended to embarrass the respiration and cause muscular atrophy, by a corset made of bed-tick, which by means of braces not only ensured most perfect immobility and fixation, but also allowed extension to be made if necessary. Another advantage was that it facilitated exposure of the affected parts to solar rays. After three years a light celluloid apparatus was used which could be removed at night and finally discarded.

Patchy Sclerema.—MM. Variot and Lorenz-Monod showed a boy, aged 1½ months, with indurated circumscribed patches on the left cheek and thighs. Wassermann's reaction was positive. Under the influence of Ung. Napolitanum the patches rapidly disappeared and the Wassermann reaction was negative at the end of the treatment.

Acute Appendicitis during Varicella.—M. Lesné reported the case of a girl, aged 10 years, seized with characteristic abdominal symptoms on the day following an outbreak of the eruption of chickenpox. The appendix was found inflamed with small streptococcal abscesses in its walls. In another case, that of a boy, aged 5 years, a confluent eruption of chickenpox occurred the day after he was attacked with appendicitis. In this case, also, there was an abscess in the free portion of the appendix, giving cultures of streptococci and *B. coli*. M. Lesné regarded the appendicitis as a complication of varicella.

Loss of Mineral Matter by the Stools in an Athreptic Infant.—MM. Marfan, Dorlencourt and Saint-Girons reported the case of an infant, aged 3 months, admitted to hospital for vomiting and diarrhœa in a state of extreme emaciation. Regulation of the feeds was followed by cessation of the vomiting and diarrhœa, but there was no improvement in the general condition, the infant dying of marked athrepsia. Autopsy gave negative results. During the week preceding death the stools were examined with the following results: For every 560 grm. of milk taken the quantity of matter passed was 42 grm. instead of 32 grm. in a normal infant, containing 3·53 grm. ashes as against 1·60 grm. In other words, during seven days the infant had taken with its milk 23·34 grm. of mineral matter and had eliminated with the fæces 24·75 grm. The authors believed that in the absence of digestive disturbance, the ætiology of true athrepsy was to be found in the insufficiency or absence of peptozymases and trophozymases.

Mongolian Blue Patches.—M. Constantin Macaronopoulos, of Athens, reported nine cases. He proved conclusively that they were caused by pigmentary granules within the fusiform or stellate cells in the deep layers of the dermis. Several cases were associated with white hairs on the scalp, and the author considered that the congenital blue patch was not to be regarded as a sign peculiar to the Mongol race, but that it indicated rather some disturbance of cutaneous pigmentation. Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Variola in the newborn (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 289).—**A. Epstein** records a fatal case in a newborn female infant whose mother developed smallpox the day after delivery. The child's temperature first began to rise on the third day of life and reached 39·5° C. the following day. A prodromal rash appeared in the right abdomino-femoral region on the fourth day. After the eruption had appeared the temperature fell to normal, rising again to 39·4° C. as suppuration occurred. The pustules were lower and flatter than in the adult. Many showed no umbilication. In the palms, perinæum, and especially the fingers the vesicles were unilocular and collapsed on pricking. Death took place on the eleventh day of life. The course of the disease was in no way affected by red light treatment. J. D. Rolleston.

Recovery from tetanus neonatorum (*'Deutsch. med. Woch.,'* 1913, xxxix, *p.* 1789).—**G. Wolf.**—Typical symptoms of tetanus developed on the ninth day of life, two days after the umbilical cord, which had begun to suppurate, had fallen off. One hundred units of tetanus antitoxin were given on three successive days, half subcutaneously and half intra-muscularly. The child was given chloral *per rectum* and nasal fed with his mother's milk. After lasting for about three weeks the symptoms subsided. At the age of seven weeks the child was in perfect health. J. D. Rolleston.

Tetany in the new-born (*'Jahrb. f. Kinderheilk.,'* 1913, lxxvii, *p.* 629).—**E. Kehrer** describes six cases in the newborn of tetany. In one tetany and nephritis were combined (the mother suffered from eclampsia); in another tetany and scleroderma; in another tetany and severe jaundice; and in another tetany in the child occurred simultaneously with tetany in the mother. F. R. B. Atkinson.

Meningeal hæmorrhage in the newborn (*'Thèses de Lyon,'* 1912–13, *No.* 44).—**J. Thibault.**—The thesis contains brief notes of sixteen cases. The conclusions are as follows: (1) Meningeal hæmorrhage is one of the most frequent causes of death in the newborn. (2) It occurs at the moment of birth. (3) It differs from most of the meningeal hæmorrhages found in the adult by the absence of any previous meningeal inflammation. (4) It is frequently associated with subserous ecchymoses which are possibly due to a hæmorrhagic diathesis. (5) Death usually occurs rapidly, and can only be prevented by lumbar puncture (*v.* British Journal of Children's Diseases, 1912, ix, *p.* 84). (6) The cause of the hæmorrhage is injury to the fœtal head in passing through the pelvis. (7) Meningeal hæmorrhage is of medico-legal interest, as it is frequently found in autopsies on the newborn and in most cases of death without violence. It may be absent in cases of criminal asphyxia, and its presence by no means constitutes a presumption of infanticide. J. D. Rolleston.

Bilateral phlebitis of the lower limbs in a newly born child (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 615).—**C. David** describes a fatal case in a child, aged $2\frac{1}{2}$ months, following on suppuration of the umbilicus. F. R. B. Atkinson.

The gastric secretion of infants at birth (*'Amer. Journ. Dis. Child.,'* 1913, VI, *p.* 264).—**A. F. Hess** has made a series of observations on the gastric secretion of infants during the first few hours of life who have never been given any food. He finds that very soon after birth there is free hydrochloric acid in considerable amount in the unfed infant's stomach; and that this may be secreted almost uninterruptedly for some hours quite independent of the ingestion of food. He does not think that the mechanical stimulation of the stomach by the passage of an instrument was the cause of the presence of the acid, though probably the secretion of mucus can be so stimulated; nor does he regard the saliva as the natural gastric stimulus in the newborn. Rennin, pepsin and lipase were also obtained. The amount of hydrochloric acid was variable in different cases; exceptionally it was found almost lacking on repeated testing or very profuse (congenital hypo- and hyperchlorhydria). REGINALD MILLER.

Duodenal ulcer in the newborn and infants (*'Le Nourisson,'* 1913, I, *p.* 331).—**P. Gallas.**—In the newborn and infants the subjective symptoms of duodenal ulcer, which are so prominent in the adult, are absent. Gallas describes four forms: (1) A normal form with melæna. In this form vomiting occurs, either immediately or one or two hours after food, diarrhœa is the rule, and emaciation is more or less marked and progressive. Hæmorrhage, which is the principal symptom, occurs either as melæna or much less frequently as hæmatemesis. (2) A gastric form simulating gastritis or pyloric stenosis. (3) A latent form in which the ulcer is a necropsy surprise. (4) A form in which the presence of an ulcer is suddenly revealed by a complication such as hæmorrhage or peritonitis. Four illustrative cases in infants, aged from 2 to 6 months are recorded (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 554, and 1913, X, *p.* 468).

J. D. ROLLESTON.

Hæmatemesis in the newborn and in young children (*'Thèses de Lyon,'* 1912–13, *No.* 1).—**A. Poursain.**—The thesis contains the histories of seventeen cases, sixteen of which occurred in the newborn and one in an infant of seven months; six died. Poursain's conclusions are as follows: (1) Hæmatemesis in the newborn and young children is much rarer than melæna. (2) It is often difficult to show the cause for the hæmatemesis; in most cases an ulcer must be incriminated, which is almost always situated in the stomach, rarely in the duodenum. (3) The prognosis should be guarded; death occurs in about one third of the cases. (4) The origin of the gastric ulcer varies; fairly frequently syphilis may be incriminated. (5) Treatment is symptomatic; rest of the stomach is most important. Gelatinised serum, horse-serum, and other hæmostatics may be of service.

J. D. ROLLESTON.

Melæna neonatorum (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVIII, *p.* 249).—**E. Lövegren** reviews the literature and records ten cases. He estimates its frequency as 1 in 486 births. The delivery in all his cases was normal and the child was not asphyxiated at birth. None of the children had a family history of hæmophilia, nor were there cases of melæna in other members of the family. In only one case was there a history of syphilis in the parents. Six were females, 4 males. In 4 the first symptoms appeared on the first day, in 5 on the second, and in 1 on the third. Three were treated by gelatin by mouth or by rectum and 5 by hypodermic injection. Seven recovered, 3 died and came to autopsy. One showed about 150 small ulcers of the gastric

mucosa which were visible to the naked eye. Microscopically they were found to be more or less deep ulcerations of the glandular layer. In 2 no naked-eye changes were seen, but microscopically there were hæmorrhages in the glandular layer of the gastric mucosa and in the submucosa. The small blood-vessels were more or less dilated. The glandular layer showed more or less deep loss of substance. Hæmorrhages were also present in the suprarenals. Lövegren regards the hæmorrhages as primary, and the ulcerations as caused by the presence of the extravasated blood.

J. D. Rolleston.

Congenital dropsy (*'Arch. f. Kinderheilk.,'* 1913, lxii, *p.* 75).—**O. Fleischmann** and **S. Wolff.**—A premature male infant, born in a condition of blue asphyxia, showed a markedly distended abdomen in addition to generalised hæmorrhages and œdema. The ordinary methods of resuscitation proving unsuccessful, paracentesis abdominis was performed and 200 c.c. of reddish-yellow fluid were evacuated. The heart's action became more powerful and the infant was placed in an incubator. The following day more skin hæmorrhages appeared and death took place. Wassermann's reaction was negative in the child but positive in the mother, who subsequently died after giving birth to another dropsical infant, and showed, post mortem, commencing syphilitic aortitis. J. D. Rolleston.

Congenital bilateral fistulæ of the lower lip (*'Am. Journ. Med. Sci.,'* 1913, cxlvi, *p.* 223).—**L. M. Kahn** records a case in a boy, aged 3 years. There were no other deformities in the family. The mucosa of the lip on either side showed an oval puckering, in the centre of which a minute opening ran downwards and inwards towards the median line, the fistulæ ending blindly just under the mucous membrane of the lip on its inner surface. The entire length of each fistula was 1·5 cm. The fistulæ did not communicate and were separated by a thin partition, probably of fibrous tissue. Their openings were filled with glairy secretion. As the condition did not inconvenience the child excision was not recommended. Kahn could find only twenty-two other cases on record (*cf.* British Journal of Children's Diseases, 1907, iv, *p.* 52, and 1910, vii, *p.* 142). J. D. Rolleston.

Infant disembowelled at birth; appendicectomy successful (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 199).—**E. N. Reed** attended the confinement of a Mexican woman. The child was born spontaneously but with the whole intestine, both large and small, outside the abdominal cavity. The bowels had passed along inside the cord for about 2 inches and had escaped through a rupture in its wall. The bed was filthily dirty, and the intestines were thickly sprinkled with bits of straw, feathers, crumbs of food and fæcal matter from the mother. The cord was ligated, the placenta delivered, and the baby wrapped in the cleanest thing that could be found. The infant was sent to hospital and two hours after birth was placed upon the operating table. By this time the bowels were matted together by fibrinous adhesions, which included many particles of the *débris* mentioned above. They were cleansed gently, but the cleansing could not be thoroughly carried out. The appendix, three-quarters of an inch long, seemed to be contused and swollen and consequently was ligatured and removed. The umbilical opening was enlarged, and the intestines were returned. A hurried closure was made with one layer of buried catgut and one of silkworm-gut. The child made an uneventful recovery, save for one small stitch-abscess. T. R. Whipham.

Congenital defect of abdominal muscles with anomaly of urinary apparatus (*'Edin. Med. Journ.,'* 1913, xi, *p.* 127).—**L. Thatcher** records a case in a male child who died from broncho-pneumonia at the age of three weeks. The abdominal wall was very lax, the abdominal muscles being completely absent in their lower and antero-lateral parts, and the thorax markedly prow-shaped anteriorly. Testes undescended. There were some asymmetry of face and pinnæ, and slight congenital dislocation of the hips. There was marked hypertrophic dilatation of the bladder, with dilatation of the ureters and hydronephrosis without any organic obstruction. Thatcher has found only thirteen other similar cases on record. J. D. Rolleston.

Cases of congenital morphinism (*'Charlotte Med. Journ.,'* 1912, lxv, *p.* 95).—**G. E. Pettey** remarks on the sterility of opium-using women, but states should children be born to them, they usually die on the third day of life. This, he argues, is because the supply of morphia to the child ceases at birth, causing shock and collapse. He holds that in such cases morphia should be administered to the infant. Some interesting cases are reported giving the detailed treatment of several mothers and their infants.

Reginald Miller.

A study of fourteen cases of alcoholism in children (*'Med. Rec.,'* 1913, lxxxiii, *p.* 433).—**A. Gordon** studied alcoholism in fourteen children free from any morbid hereditary transmission, their ancestors being remarkably healthy and long-lived. Nine of the fourteen became orphans at an early age, and were boarded out with unsatisfactory families where all forms of sexual and social vice abounded. The children, aged from 8–14 years, quickly imitated the habits of their elders by tasting alcoholic drinks; they soon acquired a craving for spirits and rapidly drifted into the ranks of the petty criminal. Five developed epileptic convulsions; tremors, twitching and insomnia were present in all. Mentally they were brutal, and all of them had a tendency to attack and injure. One of them developed a penchant for killing chickens. One was a pæderast. All were masturbators. Five were children of parents who had suffered severe financial losses and who had taken to drink, and were imitated in this by their offspring, with the same results as described for the nine orphans.

Christopher Rolleston.

Note on the Wassermann reaction in lead poisoning (*'Australas. Med. Gaz.,'* 1913, xxxiii, *p.* 300).—**J. L. Gibson** found this reaction well marked in a girl, aged 7 years, suffering from plumbic ocular neuritis. Administration of mercury for supposed syphilis made the condition worse, and the author draws attention to the frequency of the Wassermann reaction in plumbism and the danger of too rapid administration of mercury.

F. R. B. Atkinson.

Sodium chloride fever in infants (*'Monatsschr. f. Kinderheilk.,'* 1913, xii, *p.* 386).—**G. Jörgensen,** as a result of examination, believes that the fever arising after cutaneous injection of physiological NaCl solution is of bacterial origin. F. R. B. Atkinson.

Early symptoms of poliomyelitis, with special reference to a new pre-paralytic symptom (*'California State Journ. of Med.,'* 1913, xi, *p.* 443) —**J. A. Colliver** draws attention to a new pre-paralytic symptom which is

a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a very few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has in it some of the elements of all. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. This condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement just like a chill, during which time the child is apparently unconscious with eyes set for a few seconds, and then he apparently becomes perfectly normal again. This short unconscious spell with eyes set may occur without noticeable convulsive movements. The author has observed it as a twitching of the lips with tongue running in and out and working of jaw, preceding bulbar cases.

J. Allan.

A sporadic case of acute poliomyelitis of the meningeal type (*'Med. Chron.,'* 1913, xxvi, *p.* 213).—**J. E. Rivera.**—A boy, aged 14 years, previously healthy, woke up one morning with a sore throat and shortly afterwards became unconscious. On admission to hospital there was no paralysis nor head-retraction, but Kernig's sign was positive on both sides. There were intense optic neuritis, bilateral Babinski's sign, and loss of knee- and ankle-jerks. The cerebro-spinal fluid was under increased pressure, clear and colourless, reduced Fehling's solution and was quite sterile. On discharge from hospital about six weeks after the onset the general condition was good, but there was still blindness of the left eye. The discs were pale, but there was no sign of optic atrophy. J. D. Rolleston.

The occurrence of meningeal reactions in the course of poliomyelitis (*'Med. Press,'* 1913, ii, *p.* 364).—**V. Hutinel** points out that the *medullo-virus* may be responsible for a whole gamut of misdeeds, from reactions so slight and vaguely defined as to be quite ignored up to the most formidable developments. When such meningeal reactions, medullary or encephalic, present themselves, do not make undue haste to formulate a pessimistic prognosis to which the future will furnish a humiliating contradiction; also do not believe too readily afterwards that you have arrested the progress of a case of tuberculous meningitis. J. Allan.

Atypical infantile paralysis (*'New York Med. Journ.,'* 1913, xcviii, *p.* 1213).—**F. L. Wachenheim** records six cases in children, aged from 9 months to 2 years: (1) Flaccid paralysis of left deltoid with rapid and complete recovery. (2) Onset with fever and gastro-intestinal symptoms, followed by stupor and absence of reflexes in all extremities; mental condition became normal in a few days, but there was complete paralysis of one deltoid. (3) Slight facial paresis, sweating localised to face, and complete paralysis of muscles of shoulder girdle and neck; R.D. in both trapezii; other muscles little, if at all, affected, but absence of knee-jerks. (4) Polio-encephalomyelitis, with main lesion in the pons. (5) Paralysis, with tachycardia of seven weeks' duration. (6) A case of meningitis; mental impairment and optic neuritis resulted, but there were no peripheral palsies.

J. D. Rolleston.

Attempts to transmit poliomyelitis by means of the stable-fly (Stomoxys calcitrans) (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 461).—

W. A. Sawyer and **W. B. Herms,** as the result of seven experiments in which the conditions were varied, were unable to transmit poliomyelitis from monkey to monkey through the agency of the stable-fly. Further experimentation may reveal conditions under which the stable-fly can transfer poliomyelitis, but the negative results of the authors' work and of a second set of experiments by Anderson and Frost render it doubtful that the fly is the usual agent in spreading the disease in nature. On the basis of the evidence now at hand, persons suffering from poliomyelitis or convalescent should be isolated, and attempts be made to limit the formation of human carriers and to detect and control them. Screening of sick-rooms against the stable-fly and other flying insects is a precaution which should be added to those directed against contact infection, but not substituted for them. The measures used in suppressing the house-fly are not applicable to the control of the stable-fly owing to its different habits and food supply. Methods should be devised for diminishing the number of stable-flies, as they are a great annoyance to cattle, and in all probability are capable of transferring and inoculating a number of the diseases of animals.

T. R. Whipham.

Choreiform manifestations in poliomyelitis (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 881).—**A. Netter** and **L. Ribadeau-Dumas.**—Poliomyelitis may be associated with choreiform movements of varying amplitude. As a rule, they precede the paralysis, and are of short duration, but sometimes may last for days or even weeks. Analogous symptoms preceding the paralysis are much more frequently found in monkeys who have been inoculated with the virus of poliomyelitis. It is reasonable to suppose that in some cases these choreiform movements may predominate or occur without subsequent paralysis. Such cases would constitute a choreic infantile paralysis just as there are some cases of paralytic chorea. The writers record two cases in children, aged 6 months and 6 years respectively. The former died of infantile diarrhœa, and the necropsy showed diffuse inflammation of the cord and spinal meninges, most marked in the anterior cornua, especially of the lumbar and cervical enlargements. J. D. Rolleston.

Ætiological study of chorea (*'Thèses de Paris,'* 1912–13, *No.* 298).—**G. Grabois** gives the following statistics of 136 cases of chorea from Hutinel's service at the Hôpital des Enfants Malades from 1907–1913: 87 were girls, 49 boys. The severest cases were found between four and ten years. In 8 per cent. there had been chorea in one of the parents, and in 27·2 per cent. there was a neuropathic heredity. Rheumatic heredity was present in 15 per cent.; 22·7 per cent. showed some evidence of rheumatism. In 40 per cent. there was organic disease of the heart, 35 per cent. of whom had had rheumatism, while the remainder were due to other infections or the cause was unknown. Tuberculosis was found in the ascendants or direct collaterals in 34·3 per cent.; 31 per cent. gave a positive intradermo-reaction to tuberculin without clinical tuberculosis, and 5·2 per cent. had clinical tuberculosis. Heredo-syphilis was present in 25 per cent., but was usually associated with heart disease, rheumatism, or other infections.

J. D. Rolleston.

A contribution to the study of the organic theory of Sydenham's chorea (*'Arch. de méd. des Enf.,'* 1913, xvi, *p.* 481).—**Deléarde** and **Valette** have studied clinically a series of twelve cases of Sydenham's chorea with a view to determining the frequency of the occurrence in this

malady of signs regarded as signifying organic disease. These cases were tested for the various reflex changes and disorders of movement used for examining the cerebrum and cerebellum. They conclude that the theory that chorea is due to organic changes in the nerve-cells of the brain is not supported by their observations, for clinical signs of organic disease were not found with sufficient frequency or constancy. REGINALD MILLER.

A streptococcus producing symptoms of chorea in a dog (*'Journ. Amer. Med. Assoc.,'* 1913, LXI, *p.* 1376).—**G. F. Dick** and **T. Rothstein** report that they have isolated from the throat of a patient with chorea of five years' duration a streptococcus which, grown on blood-agar, forms a heavy dirty white growth with a border well raised above the medium and a wide zone of hæmolysis. It grows aërobically and anaërobically equally well and on all ordinary media. It ferments milk with a slight acid production, but no coagulation. It does not ferment dextrose, lactose, mannite, inulin or saccharose. As grown on the surface of agar slants the streptococcus is a Gram-positive organism occurring in irregular groups and short chains with an abundance of Gram-negative forms which gives the impression of a mixed culture. In milk it grows in extremely long chains, and staining fails to show a capsule. A dog which was injected intravenously with the growth from four agar slants developed choreic movements within twelve hours, but whether the organism was recovered from the dog's throat is not stated. A detailed report will appear in the 'Journal of Infectious Diseases.'

T. R. WHIPHAM.

The varieties and treatment of chorea (*'Brit. Med. Journ.,'* 1913, I, *p.* 1261).—**F. Langmead** finds in sodium salicylate our most valuable remedy. He believes in large doses of the drug, but does not endorse the massive doses recommended by Lees. During treatment the bowels should be freely opened, and this will help to avoid the risk of acid intoxication. The after-care of the choreic patient is very important. J. ALLAN.

School Hygiene.

School medical inspection in rural districts in Germany (*'Journ. of State Med.,'* 1912, XX, *p.* 590).—**K. Dohrn.**—School medical inspection is a valuable prophylactic measure against tuberculosis; it may also be of value in arresting the constant migration of the rural population into the towns. Rural school inspections are of peculiar value to the health official. By their means he gains, not only first-hand knowledge of the health conditions of the district, but also a valuable opportunity is placed in his hands for dealing promptly with discovered defects. He gets to know the cripples in his district and secures appropriate treatment for them. The mental defectives are, if possible, removed from the schools. The boarded-out children are supervised. Bathing facilities are provided, and the physical development of the stiff, loutish country child is promoted by the introduction of active school games. The services of the health nurse are invaluable.

J. ALLAN.

School planning, with special reference to the prevention of consumption (*'Journ. State Med.,'* 1913, XXI, *p.* 692).—**S. Barwise,** after a careful study of this question, concludes that all the class-rooms should be made in a single row with windows open to the air on opposite sides, and that a dwarf veranda should be made as the passage to connect one class-

room to another. To obtain through ventilation by means of windows on opposite sides it is necessary that the windows should be of a special design. The ventilators now take the form of what, in England, are known as "hoppers," which open 6 ft. from the floor. These direct the air upwards towards the ceiling. The air passes across the room, along the ceiling, and down out through the hopper on the other side. In passing through the room, eddies of fresh air are caused which completely change the air in the class-room, so that carbonic acid in a room never reaches above ·8 parts per 1000. In addition to the continuous ventilation by the hoppers, the instructions to the teachers are that, when the children go out for play, the rest of the windows, which are made to swing on an axis, must be thrown wide open, so that, when they reassemble, the air inside is practically the same as that outside the building. It is obvious that by introducing this large amount of fresh air the difficulty of heating the schools is greatly increased, but this can be done by having the floor of the class-room kept at a comfortable gentle heat, say in the coldest weather from 80° to 90° F. This could be done quite easily by having a hollow concrete floor into which steam is injected. The condensed steam could be conducted back to the boiler and the water would be used over again. J. Allan.

The architecture of open-air schools (*'Med. Record,'* 1913, lxxxiv, *p.* 880).—**J. V. van Pelt** considers the following conditions should be attained in such schools: (*a*) The ground should be sand or gravel, protected from the wind, but trees should not be too near the school. (*b*) The sun should enter into all the class-rooms during a part of every day of the year. (*c*) Odours should not reach the class-rooms. (*d*) Ventilation should be provided on two or more sides; an open gallery is advantageous. (*e*) The auditorium should be so situated that it can be thrown entirely open. (*f*) Class-rooms should have predominant unilateral light—*i. e.* the light on the left of the pupils should be stronger than that from other directions. (*g*) Class-room windows should be so arranged that any side from which a driving shower or a mist comes can be closed. (*h*) Class-rooms may have the floor warmed. (*i*) Steam or water vapour should be the means employed for heating the rooms; 40° C. is a maximum temperature for a floor surface. Special attention should be paid to the acoustics.

F. R. B. Atkinson.

The place of the open-air school in preventive medicine (*'Journ. State Med.,'* 1913, xxi, *p.* 744).—**G. Newman** points to the value of the open-air school in the conservation of the health of school-children. In his opinion the open-air school could and should deal materially with the children during and after school life in five ways: (1) By nipping disease at its earliest and most incipient stages; (2) by preventing those things which followed disease and which were the causes of disablement and death; (3) by supplying an opportunity of repair for the debilitated, anæmic and unnourished child that was found in our great towns; (4) by nurturing the debilitated and backward child; and (5) by furnishing a new way of life for these children. It was much more than a combination of a school and a convalescent home; it was a process of preventive medicine by which the natural defences of the body might be reinforced and strengthened.

J. Allan.

The nutrition of elementary school-children (*'Brit. Med. Journ.,'* 1913, i, *p.* 1055).—**W. Spencer Badger** points out that clinical examina-

tion affords the only reliable means of estimating the child's nutrition. Among the common characteristics of malnutrition are expressionless countenance, mental dulness, mouth-breathing, blepharitis, loss of muscular tone, half-open eyes, blueness of the extremities, and a harsh, dry skin. Malnutrition has a close association with disease, sometimes preceding and sometimes following it. Heart disease particularly is a nutritional disorder in school-children. Dental caries has a wide-spread influence in producing malnutrition, and insufficiency of sleep is one of the prime preventable causes. The harmful effect of overwork operates mainly by reason of the work outside school hours being undertaken by the least fit and worst-fed children. Malnutrition is frequently associated with poverty, but in such cases the poverty is commonly found to be accompanied by thriftlessness, ignorance, dirt or neglect. J. Allan.

Preliminary report on an outbreak of febrile disease in an industrial school (*'Brit. Med. Journ.,'* 1913, i, *p.* 1317).—**K. M. Duncan** gives an account of an outbreak of febrile disease in an industrial school at Preston. The illness was of sudden onset, marked by headache, epigastric pain, vomiting in mild cases of undigested food, but in severe cases of large quantities of a distinctly greenish or yellowish fluid, a temperature varying from normal to 105° F., by herpes labialis in a certain proportion, and in five cases by definite consolidation at the base of the lungs. In the very worst cases there was a true septicæmic condition. Three of the boys were found dead in bed, having retired apparently well the previous evening; four others died within twenty-four hours of the onset of headache or vomiting. The post-mortem findings and the bacteriological and agglutination results are given. Hypertrophy of the thymus and thyroid glands appeared to be common to the fatal cases. J. Allan.

Inquiry into outbreaks of febrile illness, with rapidly fatal cases, occurring in a boys' industrial school near Edinburgh (*'Edin. Med. Journ.,'* 1913, x, *p.* 201).—**C. McNeil** and **J. P. McGowan** investigated these cases at the request of the Home Office. Three distinct clinical types were noted. The first is of short, acute and rapidly fatal illness; the second of pneumonia of a very peculiar and irregular character; the third is an uncomplicated but severe febrile attack. After giving illustrative cases in each group, the authors detail several symptoms which are common to all. They think that the clinical data indicate one morbid condition manifesting itself in three clinical types. This morbid condition resembles acute pneumonia more closely than any other, but deviates from the classical type. It may be described as a distorted pneumonia; and abortive or latent in the group of febriculas. The occurrence of these outbreaks over a course of years shows the existence of these peculiar forms of pneumonia, not merely in epidemic, but also in endemic form. Statistical data are given as to incidence of season, age, occupation, duration of residence in school; also as to duration of illnesses, contagion and recurrence. It is worthy of note that at no time did the staff or members of their families suffer from illnesses resembling those the subject of inquiry, either during the period of the different outbreaks, or at any other time. Similar outbreaks at other schools are considered, and the post-mortem findings are discussed at some length. Regarding conditions of environment, the authors express the opinion that the boys in this school are unduly exposed to cold, both from their too scanty clothing in the cold seasons, and also in the lack of heating arrangements in the dormitories and

passages of the institution. There is also an inadequate allowance of air-space in the dormitories, which may, to some extent, be mitigated by the free ventilation which is maintained. The authors advance the hypothesis that there is present and pre-existent in these boys an abnormal constitution of body, which, in the fatal cases, somewhat resembles the *status lymphaticus*.

J. Allan.

Control of measles (*'School Hygiene,'* 1913, iv, *p.* 131).—**J. Kerr,** at a meeting of the Medical Officers of Schools Association, contrasted scarlatina and diphtheria with measles, the two former not being disseminated to any extent by school attendance, which is the dominant factor in the spread of measles. The mortality in various countries was then alluded to. Prussia has had less mortality from measles than the United Kingdom, but three and a half times more mortality from diphtheria. Scotland also shows a greater measles mortality. As regards the character of the outbreak, measles is confined for a time to the members of one class, while in scarlet fever it is rare to find more than a couple of cases in one class without other classes being affected. By strenuous efforts to prevent the disease the form of measles outbreak tended to become like that of scarlet fever. Thus, in one school of 450 children, containing 170 infants, there were 15 cases of measles during April. At the end of April school closure was enforced for a month. During this month 24 cases occurred. Within five days of reopening 118 cases broke out. Here the infection must have been conveyed in the homes. One girl was found to have infected eleven others out of school. Contrasted with this, and supporting his first statement, Dr. Kerr related the case of a girl who attended school in an infectious condition and gave the disease to 207 children. The policy of watching the first cases and excluding others from the ninth to the fourteenth day simply defers the outbreak to a later date. Recurrent cases are rare, about 2·46 per cent. of all cases. The mortality is about 3·3 per cent. The average age of measles cases among the capitalist classes is seven to eight; among the proletariat under five. School closure will not influence the mortality. Parental notification must be adopted, and hospital treatment for bad cases. **L. R. Lemprière** said: An epidemic invariably follows when a case breaks out. The larger the epidemic the more serious and numerous are the complications. Therefore, epidemics are to be preferred in small private rather than in large public schools. Koplik's spots are useless in the control of the disease, and Meunier's sign is impracticable. Eighty-five out of every 100 unprotected individuals are usually attacked in any one epidemic, the largest number of cases occurring at the end of the fourth week. Floor space is always insufficient in public schools, and the early cases should be scattered in several separate wards, fresh cases added in turn. Only five cases should be allotted to one nurse. Confinement to bed should be enforced for twelve days. **W. Butler** advocated notification by the profession limited to the first case in the household. The contacts should be carefully controlled, and the class-room closed for a week, from a period of which the fourteenth day after the attack is the central day. Disinfection is advisable, as it necessitates cleansing. **E. W. Goodall,** however, from his experience at the Eastern Hospital, considered that elaborate disinfection was unnecessary, as the *materies morbi* is not readily conveyed by third persons or infected articles, and is not spread for any long distance through the air. Should measles be introduced into a scarlet fever or diphtheria ward, the children are all kept in bed, and a careful watch instituted for Koplik's spots and rise of temperature. On the

appearance of these symptoms the patient is at once removed from the ward, which is kept in quarantine for three weeks. **C. J. Thomas** said: Given an unprotected population, measles will spread whether there are schools or no. In Woolwich the borough was divided into two, in one of which school closure was carried out; in the other no such action was taken. Measles was only found to spread in the infant departments, and where closure was adopted the only result obtained was that measles tended to break out again and again, some classes having to close as often as three times in six months. If the schools be closed, no knowledge of the existence of the case can be obtained, and hence skilled nursing and supervision cannot be obtained. In Woolwich the mortality in the "non-closure" area was less than in the "closure" district. Measles are influenced by the holidays. Children who are confined to one district by school attendance wander abroad in the holidays to infected areas, where they acquire the disease. Raising the age of attendance would be of little benefit; the mortality in Scotland, where the age of attendance is higher than in England, is greater. **Armstrong** said that, owing to the efforts at control, the age at which measles were acquired was postponed, and consequently the number of unprotected boys entering a public school had risen by 12 per cent. Mortality depended, not upon age, but upon environment, the disease being not especially fatal to children living hygienically. **Attlee's** experience at Eton is as follows: Sixty cases a year out of an attendance of 1000. Thirty-three per cent. of the entrants are unprotected by a previous attack, and acquire the disease during school-life. Most of the epidemics occur during the Lent term. There are very few bad cases at Eton, the mortality being only 0·5 per cent. **Swift** and **Procter** stated that epidemics occurred once in every five years, and neither had ever seen measles occur twice in the same child. Warmth, antiphlogistine, and rest in bed for eight to ten days were recommended by Swift, who also made the interesting statement that after measles puny children often began to thrive, a result which he attributed to the killing of the latent germs of disease by the septic organisms.

CHRISTOPHER ROLLESTON.

Tuberculosis and other diseases in schools and colleges (*'New York Med. Journ.,'* 1913, XCVII, *p.* 165).—**S. A. Knopf** says that 10 per cent. of tuberculosis among school-children is due to bovine infection, which could be eradicated by the foundation of a Federal Public Health Department and by the enforcement of bovine laws. In the East River Homes, New York, well-lighted and ventilated homes are provided for tuberculous families with roof gardens for open-air treatment and open-air schools. In New York City there are 14 open-air schools containing 626 children from all classes of society; in the rest of the States there are 41, accommodating 1229 pupils. In these schools improved nutrition, due in part to the food received and increased hæmoglobin content out of proportion to quantity and quality of the aliment provided, are noted. In the New York schools 100° F. was the lowest recorded temperature. Open-air schools and open-air instruction are absolute necessities for the eradication of tuberculosis in the coming generation. In higher grade schools singing should be practised in the open air, as of all exercises it is the most conducive to health. Home-lessons should be studied either on a porch or in a space before an open window enclosed by a canvas-covered frame. The author describes seven respiratory exercises which should be performed four to six times a day, on getting up and on retiring. These exercises are not recommended for children already tuber-

culous, or for very delicate children. They differ little from those already in use in English elementary schools. CHRISTOPHER ROLLESTON.

Rest and exercise for the tuberculous and the predisposed child at school (*'Med. Record,'* 1913, LXXXIV, *p.* 875).—**S. A. Knopf** shows various diagrams of different exercises advised by him for expanding the chest, and also of an open-air study and window-tent. The tent is attached to the window, and extends $4\frac{1}{2}$ ft. inside the room, and is so constructed that the air from the room will not enter or mix to any extent with the air in the tent. F. R. B. ATKINSON.

The prophylactic and therapeutic value of fresh air in schools and hospitals, including heliotherapy (*'Med. Record,'* 1913, LXXXIII, *p.* 1013). —**J. W. Brannan** states that at Sea Breeze cases of surgical tuberculosis are treated by open-air methods, the children sleeping on the open porches and bathing daily in the sea. Open-air treatment was adopted for acute pneumonia cases with great success; the mortality by ordinary hospital methods was 25·2 per cent., but after nursing on open balconies it sunk to 10·7 per cent. This good result was attributed to the cold air raising the blood-pressure. The restlessness and delirium of alcoholic patients are much diminished by this method. In asylum work the tremulousness, anorexia and mental depression of insane alcoholics disappear very rapidly under open-air treatment. The first open-air schools in America were those at Providence and Franklin Park, Boston. The latter is situated on the roof of a refectory, protection from storms being secured by curtains. Of 37 tuberculous children, 30 after six to twelve months' treatment were able to re-enter ordinary schools, while delicate anæmic children gained six pounds in weight apiece, and increased their hæmoglobin content from 71 per cent. in the autumn to 85 per cent. in the spring. Equally good results have been obtained in schools where no extra nourishment has been given. Rollier, at Leysin (situated 4500 feet above sea-level), exposes his patients gradually to the influences of the sun; beginning with five minutes three times a day, the exposure is gradually increased till the whole daytime is occupied with the development of pigmentation. The case progresses until recovery is complete. In countries where there is no sunshine radiotherapy and Bier's congestion treatment should be tried. CHRISTOPHER ROLLESTON.

Investigations on albuminuria and blood-pressure in school children (*'Norsk Mag. f. Laegevid.,'* 1913, LXXIV, *p.* 1601).—**J. Bugge** examined 550 boys, aged from 7 to 16 years, and 526 girls, aged from 7 to 14 years, in two of the communal schools of Christiania. One hundred and sixty, or 14·9 per cent., showed albuminuria. Three varieties are distinguished, viz. transitory, orthostatic and nephritic, the percentage frequency of which was 4·0, 3·5 and 1·1 in boys, and 5·1, 13·3 and 1·0 in girls. The much greater frequency of albuminuria in girls (21·1 per cent.) as contrasted with boys (8·9 per cent.) was due almost exclusively to the prevalence of orthostatic albuminuria in girls. The subjects of orthostatic albuminuria often had no symptoms. Many of them were anæmic, but they were not more subject to acute infectious diseases or to tuberculosis than other children. The blood-pressure was measured by Riva-Rocci's instrument with a 12 cm. armlet. It was found that the blood-pressure rose steadily with the age of the child. Up to eleven years it was higher in girls, and subsequently it was higher in boys. Both in orthostatic and in nephritic albuminuria the blood-pressure and heart were usually normal. As a rule, the blood-pressure was as high in

the recumbent as in the vertical position, both in the orthostatic cases and in normal children. Bugge could not confirm Jehle's theory that orthostatic albuminuria was always due to lordosis of the lumbar vertebræ, but found that lordosis often occurred without albuminuria, just as albuminuria was frequently present without lordosis. A large number of boys were examined, both before and after gymnastic exercises and football. In 21 per cent. of the healthy boys gymnastics produced albuminuria, a little more frequently in boys with lordosis than in others, and casts were often found. After one hour's football, albuminuria was found in 10 per cent. of the healthy boys, and was more frequent when there were few players in the game. Gymnastic exercises generally increased the amount of albuminuria in albuminuric cases, and often caused casts to appear. J. D. Rolleston.

Pediculosis among school-children (*'New York Med. Journ.,'* 1913, xcviii, *p.* 656).—**J. Sobel** summarises the importance of the louse from several standpoints: (*a*) As an index to the cleanliness of the household. (*b*) As a causative factor in glandular enlargements, and as a predisposing factor of tuberculous adenitis. (*c*) Indirectly it sets up purulent infections —*e. g.* impetigo, furunculosis, folliculitis. (*d*) As a disease carrier, Goldberg and Anderson showed that the virus of typhus is contained in the body of the infected louse, and may be transmitted by subcutaneous injection of the crushed insect. It is innocent, however, as regards the transmission of poliomyelitis. (*e*) It disturbs the general health by causing insomnia and irritability. Mental depression caused by the taunts of other school-children is frequently noticed. Efficient control is rendered very difficult in New York, owing to the migratory character of the population. Exclusion is only enforced when living vermin are found. The exclusions for lice have not decreased, while for other contagious diseases—*e. g.* scabies, impetigo, and ringworm—there is a notable diminution. The former ailments can be, and are, controlled by physicians. Inspections at monthly or, if necessary, at more frequent intervals are made of all verminous children. A mixture of equal parts of kerosene and sweet oil is used as a parasiticide. Nits should be removed by a fine-toothed comb or by sandpaper. Clothes and bedding in the homes were found to be very filthy in 87 out of 161 cases, dirty in another 29, fairly clean in 23 cases, and very clean in only 22. Overcrowding occurred in 60 to 70 per cent. of the households. It is absolutely necessary, therefore, to cleanse the homes and all the inhabitants, and not to spend all one's attention on the school and scholars. Pediculosis is very rare among the coloured population, the percentage being only 0·5 per cent., as compared with 16·5 among the whites. This is due to the fact that negroes are constantly combing their hair in order to get rid of the kinks. Negroes with straight or curly hair are more frequently verminous. The homes of the coloured are cleaner than those of the alien white man. Bags should be provided for the hats and clothes of verminous children. Christopher Rolleston.

Diagnosis and treatment of skin diseases in school-children (*'Clin. Journ.,'* 1913, xlii, *p.* 110).—**F. Gardener** places the incidence of disease in the Edinburgh Skin Clinic in the order of their prevalence as follows: impetigo, ringworm, pediculosis, scabies, dermatitis, seborrhœa, and psoriasis. Impetigo contagiosa is characterised by the superficial character of the lesions and the localisation to scalp, face and hands. Its association with pediculosis capitis is noted. Failure to cure is due to ignoring the concomitant pediculosis or seborrhœa. The latter is cured by adding 10 gr. of

sulphur to the antiseptic ointment. The pediculus pubis may affect the eyebrow and eyelashes in young children. In regard to scabies the author emphasises the importance of examining the whole family. Urticaria is sometimes a complication and may conceal the scabies. Sulphur should not be used for more than three days at a time. Alopecia areata is an infective condition, and is characterised by thinning of the skin of the scalp and by the fact that the new hairs are white and atrophied. The disease is aggravated and spread by pediculosis. The points of election for seborrhœa are the auricles, behind the ears, the neck, the sternal and interscapular regions, and especially the flexures of the joints, *e. g.* elbow and groin.

CHRISTOPHER ROLLESTON.

The Montessori method from a physician's standpoint (*'Med. Record,'* 1913, LXXXIII, *p.* 691).—**G. W. Jacoby** describes this system as one which enables normal children of four or five to compete on equal terms with children who have already gone to school for two or three years; as one which makes it possible for psychically deficient children to compete with their normal comrades; as one which ensures model discipline and enables the pupil to think and act independently. Children are allowed to busy themselves with any one thing for as long a time as it interests them. Reference is then made to Itard, who reclaimed the Savage of Aveyron, to Voison, Séguin and Guggenbald, and it is shown that the partial failure of these pioneers was due to a faulty method of diagnosis rather than to faulty technique. All mental development depends upon attention, which is aroused in varying degrees. A concept may impinge only upon the periphery of the field of consciousness—perception, or upon the fixation-point of consciousness—apperception. Apperception is active when the process is associated with the feeling of self-performance, passive when a psychic happening forces itself upon one. There are three grades of feeble-mindedness: (*a*) Power of directing attention to various objects of the outer world exists, but there is a failure in giving the necessary clearness and distinctness to the resultant idea. (*b*) Passive attention may be aroused, but no spontaneous development of active apperception takes place. (*c*) Passive attention is wanting, and in this class education is impossible. Passive is converted into active attention by inducing the child to make a selection between various objects. In the Montessori system the child is taught to recognise common objects by touch, then to compare them with other articles, thus learning to choose and so to judge. The author advocates the thorough testing of the method by the establishment of special schools and houses of childhood, and not by trying to amalgamate it with Froebel's system. It is specially suitable for the mentally inadequate, who require individual diagnosis and training.

CHRISTOPHER ROLLESTON.

Feeble-mindedness and school-children (*'Med. Record,'* 1913, LXXXIV, *p.* 329).—**E. Bosworth McCready** divides the feeble-minded into (*a*) morons, (*b*) imbeciles, and (*c*) idiots, and each of these classes into high, medium, and low grades. The restriction of marriage among the unfit would only lead to the production of illegitimate children, and as the little knowledge possessed on the subject has been derived from animal experiment, where physical and not ethical and mental qualities are concerned, the time cannot be ripe for the state regulation of marriage. The writer also condemns sterilisation for the encouragement which it would give to illicit intercourse, and for its uncertainty. Segregation is strongly recommended. Normal children should be boarded out in private homes instead of public institutions, leaving these

for the accommodation of the mentally deficient. In ordinary schools aments only learn in a parrot fashion. Long school hours are irksome, consequently they become restless, troublesome, and are easily excited to mischief, which frequently brings them into the juvenile court. They are also very prone to infectious diseases and tuberculosis. Defectives should only remain in graded classes till their actual mental status is settled. The slight accomplishments which they acquire in these classes lead employers to think them normal; positions are therefore offered, but are not long retained, with the result that the unfortunate ament joins the ranks of the unemployed and the criminal. Ordinary public schools are therefore quite unsuitable, and graded classes should be reserved for the merely dull and backward. Each child should on admission to school be examined by a medical man expert in normal and morbid psychology. CHRISTOPHER ROLLESTON.

The Binet-Simon tests (*'Edin. Med. Journ.,'* 1913, XI, *p.* 113).—**A. Dingwall Fordyce** reviews some of the recent literature regarding the tests recommended by Binet and Simon for ascertaining the mental level of the child, and for discriminating between the child who is educationally backward but of normal intelligence and the child whose intelligence is below the normal. A short description of the various tests employed is given.
J. ALLAN.

The need of psychologic clinics in connection with the public schools (*'Arch. of Ped.,'* 1913, XXX, *p.* 197).—**L. P. Clark** states that from the mentally deficient children the epilepsies and functional disorders of later life are developed, while from the neuropathic are recruited the phobias, obsessions and adolescent insanities. The neuropathic scholar must, therefore, be studied in the school, for it is in such institutions that the future patient is submitted to the strain and stress which may give rise to the abnormalities of adolescence and maturity. In New York there are 152 ungraded schools, in which 2700 abnormal children of all classes, from the idiot to the merely backward, are taught. The grossly defective should, however, be sent to resident institutions, and the field left to the neurotic. The family history of the latter should be thoroughly investigated with the help of social or field workers. According to the author, there is little difference between the neurotic and the delinquent child. The former does not lie, steal, or stay away from school, but lapses into infantile habits of depression, shyness, timidity, panics, fears and obsessions. The neurotic child may become a valuable member of society; the ament never. Therefore, if only from the utilitarian standpoint, it is necessary by psychologic investigation to separate those benign neurotic trends from the malignant which result in psycho-neuroses and incurable dementia. The problem is of much greater difficulty than that of the mentally defective, as each case demands individual study of the inner life, habits and personality. Psychologic clinics must be established to inquire into the family life and environment, which may have contributed to the child's nervousness, to test the judgment, will, and ethical sense, and finally to make a complete psycho-analysis. CHRISTOPHER ROLLESTON.

Observations of the atypical children in Dr. Groszmann's school from the standpoint of the neurologist (*'Med. Record,'* 1913, LXXXIII, *p.* 106).—**M. Neustaedter** remarks that no one particular organic defect is the cause of amentia or backwardness, but in nearly all there is a combination of causes. In all cases a brain defect must be searched for. The physical

and mental states of twelve abnormals are described. Six of these were cases of cerebro-spinal syphilis, five of them being males and one a female. All these six cases were making fair progress in school. Moral defects were only present in three: one was untruthful, one a masturbator, and the other was liable to fits of passion. One case was obsessed by phobias. In all six cases the pupils were unequal, and reacted sluggishly, or not at all, to light. In three there was spastic paresis, and in two Hutchinson's teeth were present. General paralysis occurred in one of the fathers of these six children. The Wassermann reaction was negative in all. There were three cases of infantile cerebral paralysis, all of whom were backward rather than mentally deficient, and all of them suffered from spastic hemiplegia. Convulsions occurred in one case. The remaining three were examples of meningo-encephalitis, of psychical epilepsy, and infantilism. The case of psychical epilepsy resulted from an old encephalitis, which came on with convulsive seizures between the second and third year of life. There were slight facial paralysis, diminished motor power in all extremities, and associated movements of both hands. The child was liable to fits of temper, was a habitual masturbator, and was very intelligent, being several years in advance of children of her own age. CHRISTOPHER ROLLESTON.

Medical gymnastics considered as a prelude to physical education in the treatment of mentally deficient children (*'Med. Press and Circ.,'* 1913, I, *p.* 523).—**E. F. Cyriax** points out that the chief objects of medical gymnastics in cases of mentally deficient children are to aid in developing efficiency of the motor, sensory, and psychic elements of the cerebro-spinal system, the muscular system, the sympathetic system, and also to improve the constitution as a whole by stimulating circulation, respiration, digestion, etc. Improvement is attained by means of a variety of movements that may be classified as follows: (A) Passive manipulations—(1) mechanical shaking and strong vibration applied over the brain and spinal cord; (2) friction on both sensory and motor nerves; (3) auditory and visual stimuli. (B) Active and passive movements of joints. (C) Various other manipulations and exercises not falling under either of the special groups (A) and (B). These manipulations and exercises are then considered in more detail. The importance of individualising the treatment of each case is emphasised. J. ALLAN.

Surgery.

Syphilitic disease of joints and bones in children (*'Med. Press.,'* 1913, I, *p.* 657).—**O. Addison** deems it possible, if not probable, that many cases of syphilitic disease in children are acquired and not congenital, as confirmatory history of the disease in parents is often difficult to obtain, and the classical signs of a congenital infection, such as snuffles and a rash in infancy, scars at the angles of the mouth, sunken nose, Hutchinson's teeth, interstitial keratitis, etc., are conspicuous by their absence. In this way cases are usually diagnosed as being tubercular. Where any doubt exists the question can now be settled by means of a Wassermann reaction. Syphilitic epiphysitis (so-called) is nearly always present in a syphilitic stillborn child, and when present in a living child at birth commonly affects all the long bones. When it occurs in an older infant the baby often has been healthy since birth and one limb is first attacked, generally the upper arm, but usually most or all of the bones of the same or both arms become involved, though in a less degree. The lower limbs usually escape. The disease begins at the junction

of the diaphysis with the epiphysial cartilage, causing degeneration of the cartilage and imperfect ossification. Skiagraphs show a varying thickness of new bone beneath the periosteum throughout the whole length of the diaphysis, and large clear areas of bone absorption are usually present in the medulla, chiefly at its ends. If untreated this condition frequently goes on to separation of the epiphysis with a semi-acute arthritis, or if a secondary infection supervenes a suppurative arthritis; at the same time the disease in the shaft may spread to the soft parts, forming abscesses and sinuses, with secondary infection and suppurative osteomyelitis. Other conditions which occur after the age of infancy are (1) periostitis leading to the formation of nodes on the skull or long bones. The new deposit of bone, although beneath the periosteum, is not formed from it. A thickening of the compact bone takes place both on the surface and centrally towards the medulla. The new bone on the surface, if untreated, breaks down in a gummatous degeneration which rapidly spreads to the superficial tissue. (2) Osteomyelitis, which chiefly affects the long bones and is most marked at the ends of the diaphyses. Gummata appear in the medulla and diffuse osteitis occurs in the compact bone. The gummata readily break down and extend to the surface with the result that abscesses form in the soft parts, followed by sinuses leading to the centre of the bone, where sequestra are not infrequent. As a rule interference with the growth of the bone takes place. There are only two forms of syphilitic joint disease which are at all frequent in children: (1) Symmetrical serous synovitis (Clutton's joints), which in the author's experience is not so common as (2) gummatous synovitis. This is usually monarticular, but sometimes multiple, and mostly attacks one of the larger joints. The synovial membrane and peri-articular tissues are swollen, but there is no effusion into the joint; muscular spasm and wasting are marked; in fact all the signs usually associated with tubercular disease are present. Under the X rays rarefaction of the epiphyses is generally seen, and a superficial layer of new bone is often present at the ends of the adjacent diaphyses, but the focus of absorption, so frequently present in tubercular disease, is absent. The condition is not common under the age of four. Symmetrical serous synovitis is most commonly seen in the knee-joints, though both elbows or hips may be affected. There is considerable effusion and a varying amount of synovial thickening, the condition being much more obvious in one joint than the other. Muscular spasm is absent, wasting slight, and the movements are free except for mechanical limitations. X rays show nothing characteristic. T. R. Whipham.

Fracture-dislocation of the elbow-joint, with lower epiphysis of the humerus dislocated forwards and radius and ulna dislocated backwards (*'Med. Press,'* 1913, i, *p.* 637).—**Aslett Baldwin** operated on a girl, aged 10 years, for the above injury, which had been sustained five months before. After operation the elbow was bandaged up flexed and then bandaged to the child's body. In the after-treatment it is very important to avoid too early or frequent movements of the joint. J. Allan.

Congenital absence of the radius, club-hand, and ectrodactylia (*'Semana med.,'* 1913, xx, *p.* 757).—**Rivarola** describes a case of this deformity in a boy, aged 10 years. The right arm was shorter than the left, atrophied and deformed. Radiography showed the absence of the head of the humerus; only three of the carpal bones were present, and the hand consisted of two metacarpal bones articulating and two fingers. No other member of the family had any similar deformity, and there was nothing in the heredity. M. D. Eder.

Reviews.

UNDERSØGELSER OVER NYFØDTE BØRNS VAEGT (INVESTIGATIONS OF THE WEIGHT OF NEWBORN CHILDREN). By H. J. HANSEN. København, 1913.

THE author, having observed in his own country practice that the average weight of newborn babies was somewhat higher than that indicated by earlier authors for town babies, and being desirous of elucidating the grounds for the difference, has, aided by the service of the midwives in his district (Nykobing), pursued an exhaustive statistical inquiry into the matter. From 1900 to 1910 he collected 5979 statements of the weight of newborn babies, of which 3084 refer to boys and 2895 to girls. The average weight of the boys was 3696 grm., that of the girls 3542 grm. The weights for both sexes were about 8–9 per cent. higher than in the case of town babies, and the frequency of very heavy babies was also much greater. In obtaining these results, the cases of twins and prematurely born children were not excluded.

He then proceeds to consider the various factors which might be held to affect the above results and conclusions. The relations between the weight of the children and the age of the mother and the weight of the children and their respective positions in the family are discussed. It appears from these results that the average weight of the children increases in general with the age of the mother, but with certain reservations. In the case of the first to sixth child, there is a maximum in the progression occurring mostly in the age-group of 30–34 years; thereafter the weight declines on the average. But in the case of the later children there is no apparent maximum, the average weight increasing steadily with the age of the mother. Further elucidation showed that the weight of a newborn child depends much more in general on the number of previous children than on the age of the mother.

With regard to the increase in weight with successive children, the author's tables show that there is a steady increase, which is greatest from the first to the third child, but only inconsiderable thereafter. After the fourth child the increase becomes irregular. The maximum weight due to the number of pregnancies and the maximum weight due to the increasing age of the mother fall together within the same age-group, namely, between 30–34 years. He further shows that the average weight of the children is much greater in the country than in the maternity hospitals of Copenhagen.

The author then set himself the task of determining whether there is an optimum period for the beginning of child-bearing. He arrives at the conclusion that the average weight is on the whole greater the older the mother is at the birth of the first child, except in the case of the later children (which are heavier when the mothers begin child-bearing early) and in the case where child-bearing is begun after the mother is 34 years old. The age-group 30–34 years seems to be the optimum period for the beginning of child-bearing.

With the intention of discovering what relation exists between the weight of the child and the economic condition of the mother, he arranged the families into four classes: well-off, comfortable, moderate, and poor. Rich and very poor were not considered. It appeared that the children of the families well off were in the majority of the cases above the average, those of the poor families below the average except in the case of the later children; the families comfortably off had children about as much below as above, but the moderately well off families were even further below the average than the poor.

As regards the question of illegitimacy, he considers that it is not merely this factor which reduces the weight of the children, but rather poverty.

The last point the author deals with is whether the weight of the children is related in any way with the month or seasons of the year. From the death-rate for all Denmark and the sick-rate in his own practice, he concludes that the mothers are strongest in September to October, with a fairly even rise and fall between, and weakest in March. From his tables he adduces that the weight of the children follows the general conditions of health and sickness throughout the year.

This extremely careful study of the weights of country children and the factors which influence them is of considerable importance, especially in view of the degree of attention which is now being paid to the mortality of infants. F. L.

Staffordshire County Council: Annual Report of the School Medical Officer, including Report of the Senior School Medical Inspector for the Year 1912. Stafford: J. & C. Mort, Ltd., 1913.

With the gradual development of the work of medical inspection of school-children, much can be learnt from perusing the reports of various school medical officers. As time goes on, and when such reports become more or less standardised, there will be accumulated valuable information which cannot fail to interest all engaged in pædiatric work. This report, in addition to facts ascertained in the course of routine inspection, contains several investigations on special points. These special inquiries deal with ringworm "epidemic" schools, heart cases, and mouth temperatures of school-children. Some modification of the method of medical inspection was introduced towards the end of the year. The new plan involves the repeated visiting of schools for the purpose of revision of the ailing children —not only a very laudable object, but one which should prove of untold benefit to the school-child. J. A.

Rutland County Council Education Committee: Annual Report of the School Medical Officer for the Year 1912. By Christopher Rolleston, M.A., M.D.Oxon., M.R.C.P.Lond., M.R.C.S.Eng., County Medical Officer of Health and School Medical Officer. Leicester: W. Thornley & Son.

We have received a copy of the above report, which gives an account of the progress of school medical inspection in Rutlandshire. The method by which the inspection is carried out, and the means taken for endeavouring to secure for children found defective suitable treatment, are described. A pleasing feature is the high percentage of attendances of parents at the medical inspection, from whom some useful information has been obtained. There seems, however, disinclination on the part of some to have defects remedied, and in certain parts there is a strong prejudice against operative treatment for tonsils and adenoids. The sanitary condition of some of the schools is not all that could be desired. Next year Dr. Rolleston hopes, in addition to the routine inspection work, to examine the following additional groups: (1) All children applying for labour certificates; (2) all children employed out of school hours. We have perused this report with great interest, which should be shared by all engaged in the study of child-life.

J. A.

L'enseignement Médical à Paris, 1913–1914 (Medical Instruction in Paris). Published by La Presse Médicale. Fig. 22. Pp. 195. Paris: Masson et Cie. Price ½ fr.

This useful guide to the various hospitals and medical attractions of Paris should be in the hands of every medical man who visits the French capital. The times and places where lectures, laboratory courses and clinical instruction are given are clearly set out under various headings, such as Anatomy, Pathology, Medicine, Diseases of the Heart, Diseases of Children, Gynæcology, Therapeutics, Neurology, Surgery, Urology, Ophthalmology, Laryngology and Dermatology. At the Laennec Hospital M. Rist will, if there be a sufficient demand, give a course of clinical instruction on tuberculosis at a date to be fixed later in the session 1913–14 in English. The illustrations of the clinics are attractive and there is a useful map.

H. D. R.

Medical and Surgical Reports of the Episcopal Hospital, Philadelphia. Vol. I. Edited by Astley P. C. Ashhurst, M.D. Philadelphia: Press of Wm. J. Dornan, 1913.

This volume contains a large number of instructive papers by members of the visiting and resident staff of the Episcopal Hospital. Of special pædiatric interest are the following: "A Case of Carbolic Gangrene in a Child," by J. W. Moore; a number of papers on fractures of the bones of the forearm in children, by the editor; two papers on bone-cysts, by the editor and L. H. Mutschler respectively; "Pseudoglioma in Children," by Frederick Krauss; "A Report of Two Cases of Choroideremia in One Family," by H. G. Goldberg; "A Case of Suppurative Peritonitis of Unknown Origin simulating Meningitis," by J. de J. Pemberton; and a paper on "Vaccination and its Discoverer," by T. R. Currie.

J. D. R.

Correspondence.

To the Editor of The British Journal of Children's Diseases.

Dear Sir,—I read with much interest the "Case of Corneal Ulceration associated with the presence of Spirilla and Fusiform Bacilli" reported in the British Journal of Children's Diseases, 1913, x, p. 537, by Drs. Goudie and Sutherland.

It was an extremely rare case, and I was surprised to see that the spirilla and fusiform bacilli were not recognised as being those of Vincent's angina, the bacillus xerosis and staphylococcus evidently being a secondary infection.

It has been my privilege to have seen a large number of patients infected by Vincent's organisms, and the infection has been in various parts of the body, such as the tonsils, cheeks, nose, ears, anus, rectum, vulva, etc., but I have never seen a case with the infection in the eye.

Vincent's angina is a common condition in children who have a very low resistance. These cases are often overlooked, as very few physicians make smears from these patients.

The organism is anaërobic, and under these conditions Dr. Matthias Nicholl, of New York, has succeeded in growing it from a number of cases.

Trusting that the criticism will be accepted in the manner intended,

I am,

Birmingham, Alabama; Very sincerely yours,

December the 27th, 1913. C. C. McLean.